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Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Hope Springs Eternal
More Baseball Stories
Are You a $64,000 Question Expert?
A Gentleman!
How Did Culture Get Into This?
Emotion vs. Loyalty
Check and Checkmate
The Bad Old Days
Shorter Hours Now
Broadcast Boners
Wit from the Pulpit
Detoured Sportsmen

Hope Springs Eternal

No matter what team you're attached to emotionally—the Dodgers, Orioles, Tigers, Giants, Indians, Braves, White Sox or whatnot—you readers of "Dope" love baseball stories, according to every formal and informal poll ever taken of your reading preferences.

And at this time of year, even if your favorite National or American League Club finished last in 1955, your hopes are rekindled. You greet the new season with renewed fervor. Hence, these yarns to lift your spirits and whet your appetites.

More Baseball Stories

Five days prior to a spring training period, pitcher Bill Wight packed his wife and small son into the family auto. Departing from their home in Delano, Calif., they drove to the Yankees Camp at St. Petersburg, Florida.

In the meantime Wight had been traded to the White Sox, who were working out at Pasadena, California — near Bill's home and embarkation point.

Upon arrival at St. Petersburg, Bill was informed about the switch.

"Can I make a U-turn?" he quipped.

Are You a $64,000 Question Expert?

What was Babe Ruth's pitching record with the New York Yankees?

Five won, none lost. Babe pitched a winner in 1920, two in 1921 (the year that he hit 59 homers), and one each in 1930 and 1933.

A Gentleman!

Incomparable Hans Wagner refused $100 to endorse a brand of cigarettes because he didn't smoke.

But he sent his agent a check for $10, so that the latter wouldn't lose the commission!

(Concluded on Page 8, Col. 1)

Antibiotics Use Cuts Food Spoilage But Not Need for Refrigeration

KANSAS CITY, Mo.—A new factor in the preservation of perishable foods, the use of antibiotic drugs, is nearer to commercial application than most people realize, but it will not necessarily reduce the use of mechanical refrigeration equipment.

That was the report made by Paul Sullivan, executive secretary of the Commercial Refrigerator Manufacturers Association, before a recent meeting of that group here. Sullivan's report was inspired in part by the article "New Way to Keep Food Fresh" published in the March 17 *Saturday Evening Post*, and the resulting inquiries from the CRMA membership about the article.

The Post article carried a subheadline "New Antibiotic Drugs Preserve Foods Without Refrigeration." The inferences of this statement—that refrigeration might be done away with entirely through the use of this new method of preservation—are not borne out either in the article, or in any of the literature on the subject which Sullivan investigated in making his report.

The article did state that in the U. S., where food refrigeration is widespread, the new antibiotic-preservation method can still help reduce food spoilage, which is estimated to destroy from 5 to 20% of all fresh foods between farm and kitchen.

The facts about the method, as outlined by Sullivan, are those presented by The American Cyanimid Co., producer of aureomycin, and the organization which is pushing the use of the process commercially. Here are some of the salient points:

Aureomycin for this purpose is supplied in a powder form, which is made into a solution and sprayed directly on the food, or sometimes on ice (in the case of fish), or in some in-

(Concluded on Page 4, Col. 3)

Home Building Starts Drop Off In March; Costlier Units Rise

WASHINGTON, D. C. — Depending somewhat on how you interpret the figures, the expected spring pick-up in home building during March seemingly got off to a slow start.

The available figures indicate that there were fewer new home building starts in March than had been expected, quite a bit less than last year, but that the actual dollar volume of home building contracts awarded was near an all-time high, indicating that higher priced units are being built.

(Concluded on Back Page, Col. 2)

Whirlpool-Seeger Sees 3-Mos. Sales Rise In 'Right Merger'; Add New Product Lines

CHICAGO — Stockholders of Whirlpool-Seeger Corp. at their recent meeting here were told that officials were convinced more than ever that the "merger was the right thing," that first-quarter sales would probably show improvement, and that more new products were being added to the line.

A line of food freezers has already been introduced, taking advantage of the International Harvester facilities which Whirlpool-Seeger bought last year. A refrigerator line is scheduled to get into the field in the fall.

A combination washer-dryer will probably get some field tests next year, and a built-in range line is also in the works.

Restaurant Show To Be In Chicago May 7-11

CHICAGO — The National Restaurant Association will hold its 37th annual convention and exposition at the Navy Pier here from May 7 through 11.

Some 55 manufacturers in the refrigeration and air conditioning industry are scheduled to display equipment in the five-day exposition.

Association officials expect more than 30,000 men and women in the food serving field to attend the convention and visit the exposition. The exposition is not open to the public.

Opening day, Monday, May 7,

(Concluded on Page 2, Col. 4)

Landmesser Named to Sales Mgr. Post at York

YORK, Pa—W. E. Landmesser has been named manager of sales for residential and commercial air conditioning products of York Corp., it was announced by R. E. Cassatt, manager of sales, Commercial Div.

This is a new position created as part of the verticalization of the Commercial Div. Sales Dept. which provides for the appoint-

(Concluded on Page 33, Col. 1)

Governair Names Shea General Sales Manager

OKLAHOMA CITY — Patrick J. Shea has been appointed general sales manager of Governair Corp., the company has announced.

P. J. Shea

Formerly with Carrier Corp. and Trane Co., Shea will review completely the Governair sales program. He will visit Governair district managers from coast to coast and, in their behalf, contact architects, engineers, building management, and government groups, the company said.

17,600 Farmers Convert To Using Bulk Milk Coolers

AURORA, Ind. — More and more dairy farmers are installing bulk cooling tanks for storing milk until pick-up time, according to Rollin O. Dunsdon, Purdue university economist.

Addressing area farmers at a recent meeting here, he said:

"At last count, 767 milk producers in Indiana have switched from cans to bulk milk coolers and there are approximately 17,600 of these tanks in use throughout the nation. My first count of bulk coolers in Indiana showed 200 in use on Oct. 1, 1954, and this figure increased to 600 a year later. . . .

"Seventy-five per cent of milk shipped to Seattle from the surrounding milkshed comes from farms where bulk coolers are in

(Concluded on Page 33, Col. 2)

FRB Moves Tighten Credit Supply

NEW YORK CITY—A series of moves made by the Federal Reserve Board and Federal Reserve banks in the past 10 days have tightened the supply of money available for borrowing by business, and for consumer credit.

The "high cost" of money for lending purposes is illustrated by the fact that General Motors Acceptance Corp. on April 17 raised the rate it will pay on commercial paper — which it uses to raise funds for relending to consumer buyers—to 3⅛%, the highest since May, 1932.

Most "experts" in financial circles feel that such actions will restrict loans to business, and consumer credit. A few bankers don't share this view, however, their viewpoint being that discount rates would have to go up considerably more to discourage borrowing.

Program Is Set For Annual ARI Meeting

Product Groups May Take Up Cooling Rating, Joint Promotion Plans

WASHINGTON, D. C.—Annual meeting of the Air-Conditioning & Refrigeration Institute May 6-9 at The Homestead, Hot Springs, Va., may bring to light some more developments in the matter of rating of air conditioning units, and industry promotional activities in air conditioning.

The various air conditioner sections of the ARI all meet during the annual conclave, and it is possible that some action on the above-mentioned subjects may come to light during the meeting.

The meeting opens with product section meetings on Monday, May 7, with golf tournaments that afternoon, and a banquet Monday night, at which James E. Gheen, noted humorist, will furnish the entertainment.

Annual meeting of the insti-

(Concluded on Back Page, Col. 1)

See 4½% Rise In Production of 5 Major Appliances

WASHINGTON, D. C. — A 4½% increase in over-all production of five major appliances during 1956 was predicted recently by the commercial research committee of the Porcelain Enamel Institute.

The committee believes that production of refrigerators, freezers, dryers, washers, and ranges will total 14.8 million units this year as compared to

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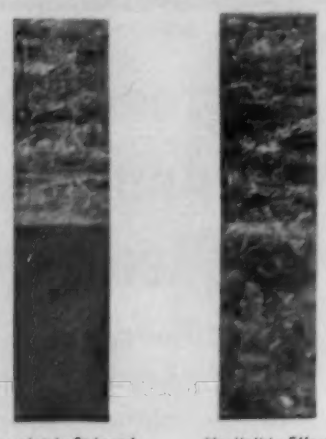
VAPCO—The ACID MIRACLE!

26 Ga. Galvanized Strips in 3% Aqueous Solutions at 75°F.



Completely Stripped in Less Than 2 Hrs. by Ordinary Cleaner

Negligible Effect After 24 Hrs. in Vapco Scale Remover

No other product can give you the concentrated cleaning power of this completely new activated scale remover . . . plus added safety to galvanize.

REMOVES SCALE— NOT GALVANIZE

Stop Wasting Cleaner Strength!

YOU CAN PROVE IT TO YOURSELF. Ask your wholesaler for a demonstration or write today.

GARMAN CO., INC. • St. Louis 23, Mo.

John Corcoran Heads Coldmobile Divisions

CHICAGO—John F. Corcoran has been promoted to general manager of the Coldmobile, hand brake, equipment steel products, and equipment specialties divisions of the Union Asbestos & Rubber Co., Edwin E. Hokin, president, announced recently.

J. F. Corcoran

Corcoran joined Unarco in 1952 as director of sales and in the following year was made vice president in charge of sales.

The divisions for which he is now responsible are located in the company's Blue Island, Ill. plant.

National Restaurant Show--

(Concluded from Page 1, Col. 3)

is designated "Dealer Day" at the exposition. The exposition will be open from 9 a.m. to 6 p.m. for dealers and wholesalers only. No convention program is planned that day.

On Tuesday through Thursday, the exposition will be open from 8:30 a.m. to 6 p.m. On Friday, it will open at 8:30 a.m. and close at 4 p.m.

The convention program is divided into general sessions each morning and "shop talk" sessions for the various types of food service operations during the afternoons. An extra evening shop talk session will be held on Wednesday at the Palmer House.

Other convention features include a graphic presentation of a $6 million restaurant business building program, a premier of a $75,000 color film on restaurant merchandising, a television-style quiz program on personnel problems, a restaurant decorating show, and a gadget and recipe demonstration.

Industry firms already scheduled to exhibit are:

COMPANY	BOOTH NO.
American Automatic Ice Machine Co.	D96, 98
American Gas Machine Co.	D110, 112
Bastian-Blessing Co.	C53-61
Carbonic Dispenser, Inc.	B35
Carrier Corp.	C49, 51
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Crane Co.	A337, 341
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Elliott-Williams Co.	A280
Evans Mfg. Co.	B249
Everfrost Sales, Inc.	C303
Fogel Refrigerator Co.	A263, 267
Foremost Fountains, Inc.	D325, 329
Foster Refrigeration Corp.	A36
Frigidaire Div., General Motors Corp.	B28-34
General Equipment Sales, Inc.	B260
Herrick Refrigerator Co.	D92-94
Hotpoint, Inc.	A25-33
Howard Refrigerator Co.	C237
Ideal Cooler Corp.	D133
Jordon Refrigerator Co., Inc.	B9, 11
Stanley Knight Corp.	C1, 5, 7
Koch Refrigerators, Inc.	B108-110
La Crosse Cooler Co.	D152, 154
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Lern, Inc.	B248, 250
Mallow Products, Inc.	B57
Marby Co.	A513, 515
McCall Refrigerator Corp.	C94
McCray Refrigerator Co., Inc.	B279, 281
Mills Industries, Inc.	D276
National Cooler Corp.	C198
National Store Fixture Co.	B16-20
Norris Dispensers, Inc.	A176
Pinnacle Equipment Corp.	C223
Port Morris Machine & Tool Works	B234, 236
Progressive Metal Equipment, Inc.	A67-73
Puffer-Hubbard Mfg. Co.	D268
S & R Soda Fountain Mfg. Co.	C158
Selmix Dispensers, Inc.	D146, 148
Silver Refrigeration Mfg. Corp.	C285
A. O. Smith Corp.	A97
Stainless Food Equipment	G, H, I
Star Metal Mfg. Co.	C127, 131-137
Sweden Freezer Mfg. Co.	C207-221
Tekni-Craft	C319, 323
Temprite Products Corp.	B282
Traulsen & Co., Inc.	J
Tyler Refrigeration, Inc.	A151
Uniflow Mfg. Co.	C291
United-American Soda Fountain	D217
United Refrigerator Co.	D69, B71
Victory Metal Mfg. Co.	C167-175
Henry Vogt Machine Co.	D120
York Corp.	C193, 195

New Line of Copeland Motor Compressors For Extra Low Temps

SIDNEY, Ohio—A new line of motor-compressors for extra low temperature commercial refrigeration is being introduced by Copeland Refrigeration Corp.

The line includes four air-cooled models in 1, 1½, 2, and 3-hp. sizes. A fifth model, 5 hp., is water cooled. They are designed for "F-12."

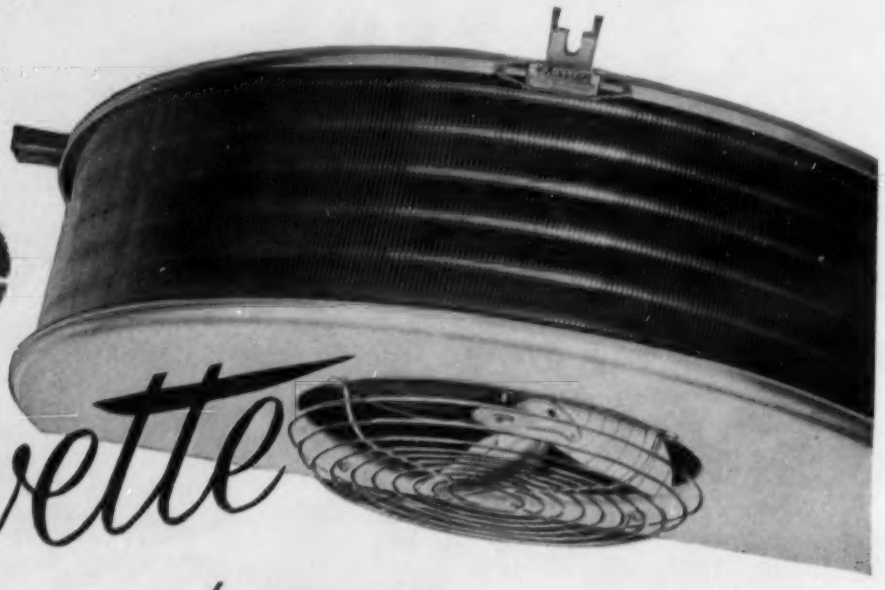
Copeland said it developed the higher-capacity models to meet the increasing demands of the commercial refrigeration industry for lower temperature applications.

Recommended evaporating temperature range is from -10° F. to -40° F. on the 1, 1½, 2, and 5 hp. and 0° F. to -40° F. on the 3 hp.

Extra-low temperature models currently are available on the "Copelametic" 1½ and 3-hp. condensing units.

Large Curvette

by KRAMER



HINGED PAN

quick and easy access

Praised for years by installation and service men.

Built-in Heat Exchanger

NO RUSTING — polished aluminum casing

WRITE NOW FOR BULLETIN C-192-7

SMALL CURVETTE
800 to 5,600 BTU's Per Hour

COOLMASTER
2,500 to 60,000 BTU's Per Hour

RADIAL
2,500 to 23,000 BTU's Per Hour

KAY-TEE
2,500 to 12,000 BTU's Per Hour

KRAMER TRENTON CO. • Trenton 5, N.J.

For more information about products advertised on this page use Information Center, page 23.

Admiral First-Quarter Profits Top '55; Plan Expansion of Galesburg Plant

CHICAGO—First-quarter profits of Admiral Corp. were higher than a year ago, Ross D. Siragusa, president, announced at the annual stockholders' meeting. First-quarter earnings in 1955 were $1,239,176 or 52 cents a share.

Sales in the first three months will be 3% lower than in the comparable 1955 period, according to preliminary figures. Siragusa said that sales and earnings for the full year will be higher than in 1955.

The company has two major expansion programs under way, he pointed out. The first will increase television production capacity by 20%.

The second phase of the plant expansion will begin in the fall at Admiral's Appliance Center at Galesburg, Ill., to provide special production capacity for a variety of built-in kitchen equipment. At present the company manufactures built-in ovens and surface cooking units.

When the new plant is completed in the fall of 1957, built-in refrigerators and freezers as well as automatic dishwashers, waste disposers, and sinks will be built there. This will provide a complete line of kitchen appliances to be sold to contractors for installation, according to Siragusa.

"With these prospects, we think it quite possible that our company will need plant facilities sufficient to meet a half billion dollar sales volume annually by 1961 and we are making our long range plans on this basis," Siragusa told the stockholders.

Manitowoc Names Brigance to New Post-Distribution Mgr.

MANITOWOC, Wis.—J. Carl Brigance has been appointed to the newly created post of manager of distribution for Manitowoc Equipment Works, it was announced recently by Tom Hannon, Manitowoc's general sales manager.

Brigance was formerly field sales manager of Emerson Radio & Phonograph Corp. He has held sales management positions with both Frigidaire and Fedders-Quigan Corp.

Amana Names Hittner

AMANA, Iowa—Mrs. Shirley F. Hittner of Pittsburgh, has been appointed to the home economics staff of Amana Refrigeration, Inc., it was announced recently by Mrs. Sara E. Walls, director of home economics. Mrs. Hittner will serve as field economist in the east.

San Francisco Code Will Become Effective May 7, Have Inspection Post

SAN FRANCISCO—The revised building code, including new articles on refrigeration, air conditioning, and permits and fees, will go into effect May 7—30 days after approval by Mayor George Christopher.

The Board of Supervisors has contracted for indexing of the revised code. This job will take two and a half months, before commercial printers can begin their work. It has been estimated the official printed code will not be available for five or six months.

Meanwhile the civil service commission has been requested to make a survey for the purpose of establishing a classification of mechanical inspector, and holding examinations to fill necessary positions to carry out the enforcement of the newly-enacted code.

Request has also been made to establish a position of supervising mechanical inspector. It is expected the commission will be requested to require a mechanical engineer for the supervisor's post, the announcement stated.

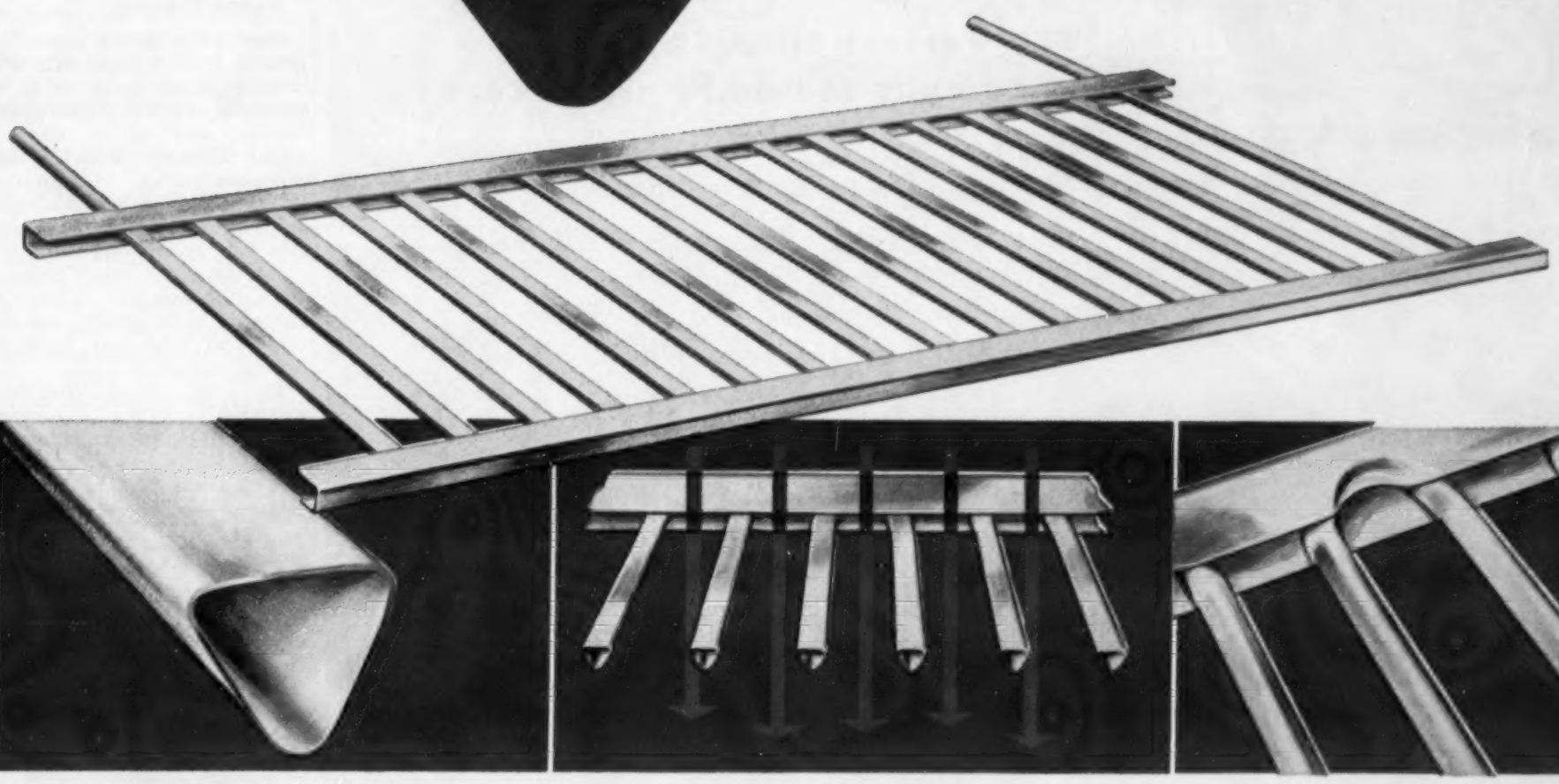
Duffy Heads Pennsalt Executive Procurement

PHILADELPHIA—Joseph J. Duffy, Jr. recently was appointed manager of executive procurement and development of Pennsylvania Salt Mfg. Co., according to Fred C. Abbott, manager of administrative services.

In this newly-created position, Duffy will be responsible for technical and professional personnel procurement and coordination of company-wide executive development training program.

NEW TRIANGULAR TUBE SHELF* by BOHN

offers 3 big advantages at lower cost



1 GREATER PRIMARY SURFACE
Since the shelf itself is all primary surface, faster freezing and faster defrosting result.

2 BETTER AIR CIRCULATION
Open construction allows air to circulate freely—providing more efficient freezing and more even temperature.

3 GREATER RIGIDITY
Tubing construction takes greater weight and strains—in assembly and in use—without bending or buckling.

TRIANGULAR ALUMINUM TUBING makes Bohn's new freezer and freezing compartment shelf unique. The flat side of the extruded triangular tubing forms a level shelf surface. The edges are rounded for easier cleaning and the entire unit can be anodized in any desired color. What's more, *Bohn's new Triangular Tube shelf costs less than other types.* For complete details, contact your Bohn representative.

*Patent applied for

FREEZER PLATES
TUBING
CONNECTORS
EVAPORATORS

BOHN

ALUMINUM AND BRASS CORPORATION
1400 LAFAYETTE BUILDING • DETROIT 26, MICHIGAN

SALES OFFICES: *Boston • Chicago • Cleveland • Dayton • Detroit • Indianapolis Milwaukee • Minneapolis • Moline • New York • Philadelphia • Rochester • St. Louis*

For more information about products advertised on this page use Information Center, page 23.

A solution of "Acronize" (containing an antibiotic drug) is sprayed on a freshly-dressed side of beef, to retard surface spoilage. Also, before the beef was dressed out, Acronize was infused through the arterial system to retard "deep" spoilage in the animal. Picture was made during the research work in San Juan, Puerto Rico, where Acronized beef was said to have held its freshness at room temperature nearly twice the normal time.

Antibiotics Only Aid Preservation--

(Concluded from Page 1, Col. 2)

stances injected into an animal before slaughtering. Name of the process is "Acronize."

It works by inhibiting the bacterial action which is a cause of food spoilage. Thus far, it apparently has no effect on enzymatic or other factors in food changes other than bacterial activity.

Primary function of the Acronize process will be to hold back spoilage until the product is brought under proper refrigeration, and also to supplement refrigeration by lengthening the time various products can be held without spoiling.

Producer Will Insist on Refrigeration, Too

American Cyanimid, in some of its published pronouncements on the Acronize process, has indicated that it will be insistent that high standards of refrigeration be used in conjunction with the process.

Tests made thus far, Sullivan said, have indicated that use of the antibiotic will extend the storage life of fresh dressed chicken to 29 days, and of ground beef to 9 days. The process could also be used with frozen foods, with the spoilage-inhibiting effect of the antibiotic going into action as the foods thawed out.

The amount of the antibiotic used is not enough to be in any way toxic, nor will the use of it in foods make the use of any antibiotics for medical purposes less effective.

It leaves no residue from its use.

Cost of the Acronize process, on the basis of tests conducted thus far, would be only a fraction of a cent per pound of meat.

The antibiotic treatment of meats for preservation purposes is seen as likely to come into commercial use much faster than the widely publicized irradiation method of treating foods, which is still confronted with problems of off odors, tastes, and colors, and high processing costs, plus possible harmful effects on vitamin content. The antibiotic treatment has none of these problems.

Warren Co. Participated In Antibiotics Tests

Officials of the Warren Co., Inc., manufacturer of commercial refrigerators, reported that they have taken part in some of the tests with food treated with antibiotics, and that they could report definitely that the treated food kept the appearance of freshness and did keep from spoiling for longer periods of time than untreated samples.

The U. S. Food and Drug Administration, after an exhaustive series of tests, issued an order approving the use of antibiotics as an aid in the preservation of chickens. Similar tests are said to be under way on beef, lamb, turkeys, fish, and various packaged vegetables, and are expected to lead to government acceptance of the process for several of these products.

Seen As Aid In Aging Process

One factor in the use of the process in beef could well revolutionize aging processes. In experiment at Ohio State university, aureomycin was injected directly into the beef carcasses after slaughtering, and then the beef was held without refrigeration for 48 hours and then cooled down.

By taste and other types of tests, this was said to have resulted in more tender beef cuts than beef that was hung for several weeks.

However, it is considered probable that first commercial uses will be in extending the storage life of fresh chickens, in fishing boats, and in transportation of perishable foods.

Oregon Hotel To Be Cooled

GREENWOOD, S. C. — John C. Stiles, of Athens, Ga., and associates have purchased the Oregon hotel here. Stiles said the hotel would be remodeled and fully air conditioned.

GET PEAK PERFORMANCE
THRU and THRU
buy Sporlan Catch-Alls
The Perfect Filter-Drier
with the Famous Molded Porous Core

Yes, it's easy to see why *only* Sporlan Catch-Alls *can* offer you Thru and Thru Peak Performance.

One look at these famous molded porous Catch-All cores, with their huge tri-dimensional filtering areas, and you know why Sporlan offers Thru and Thru Filtering... instead of just ordinary straining.

You can see, too, why they cannot powder ...cannot pack, and why the refrigerant cannot by-pass or channel around them.

Being molded of minute particles of a highly efficient desiccant, double activated, then immediately sealed...they dry the refrigerant down to an extremely low end point, a point so low that any remaining moisture is absolutely harmless.

Harmful corrosive acids found in most systems today are adsorbed and retained within the cores themselves.

So...if you want perfectly clean, perfectly dry refrigeration and air conditioning systems... Buy Sporlan Catch-Alls, the Perfect Filter-Drier, and Get Peak Performance Thru and Thru.

Ask your wholesaler for the Sporlan Bulletin 40-10 today! You'll find Catch-Alls available in progressive sizes from 3 to 192 Cu. In. in flare or sweat connections.

SPORLAN VALVE COMPANY 7525 SUSSEX AVENUE ST. LOUIS 17, MO.
EXPORT DEPARTMENT 89 BROAD STREET NEW YORK 4, NEW YORK

NOLIN Moisturizer
VEGETABLE CASE

AVAILABLE IN
5' - 8' - 10' SIZES
If It's Not a NOLIN, It's Not a MOISTURIZER

NOLIN MANUFACTURING COMPANY
1400 LLOYD ST. PH. LD 57
MONTGOMERY, ALABAMA

For more information about products advertised on this page use Information Center, page 23.

Wholesaler Sales Rise 4% for February '56 Over Same '55 Period

WASHINGTON, D. C.—Sales of air conditioning and commercial refrigeration equipment distributors in February were off 1% compared with January but climbed 4% above February, 1955, according to the Bureau of the Census.

For the first two months of 1956, the distributors' sales were 12% better than in the like year-ago period. Their inventories at the end of February increased 6% compared with a year earlier and were 1% higher than on Jan. 31.

February sales of distributors of electrical appliances, TV and radio sets and parts, and electronic equipment and parts were up 7% from a year ago and unchanged compared with January. Their sales for the first two months of the year rose 9% from the corresponding period of 1955.

End-of-February inventories of these distributors were 24% higher than on Feb. 28, 1955, and 3% higher than at the end of January.

The Census Bureau estimated that February sales of all types of merchant wholesalers as a group were 15% higher than in February, 1955, and increased 2% over January. Wholesaler inventories at the end of February rose 1% over Jan. 31 stocks and were 10% above stocks on hand a year ago, the bureau said.

Howard Buys New Plant Adjacent To Present Site

PHILADELPHIA — Howard Refrigerator Co., Inc. has recently acquired the plant occupied by the Blue Magic Co. at Margaret St. here, Albert Fogel, president, has announced.

This plant is adjacent to Howard's present plant. By joining the new space with the present plant, the company has added over 20,000 sq. ft. on one-story factory space, Fogel said.

"With this addition," he continued, "we are running two production lines for assembly of a new line of all porcelain wall cases, double duty meat cases, and low boy counter cases, in addition to an assembly line of our new bottle vendor machine.

"All fabrications, stamping, welding, and painting will be performed in our present plant containing more than 65,000 sq. ft. of space.

"Our current lines of beverage coolers, freezers, reach-ins, and walk-ins, will continue to be produced in our main plant."

Fogel said that first quarter sales increased by 22%. Total sales for 1956 are expected to pass $3 million, he added.

To Build Cooled Structure

CHATTANOOGA, Tenn.—Bids for construction of an air conditioned six-story office building to be erected at the southeast corner of Georgia Ave. and East 10th St. will be opened on May 2, it was announced by T. A. Lupton, Jr., vice president of the Stone Fort Land Co.

Atlanta Mechanical Contractors Association Announces Stand on 'Separate Bid' Question

ATLANTA—Until an owner makes up his mind whether to invite separate bids or to channel all bids through a general contractor, the Mechanical Contractors Association of Atlanta reserves the "right" to persuade him to invite separate bids for mechanical work.

But after he has made up his mind, all firms and individuals invited to bid should honor the selected method, the contractors asserted in a formal resolution approved by the group's membership.

The resolution asserted that bidders should not "interfere directly or indirectly, by suggestion or innuendo, with the rightful decision of such owner or his representatives in an attempt to force, coerce, intimidate, or otherwise influence a change in the plans and specifications published, so as to alter the method of doing business so set forth by the owner."

York Promotes Glenn To New District Post

YORK, Pa.—Brewer I. Glenn has been promoted from service supervisor to zone sales supervisor of York Corp.'s midwest district with headquarters in St. Louis, it was announced by C. C. Strauch, district manager-commercial.

Glenn joined York three years ago, having been a service supervisor for a St. Louis manufacturer of air conditioning and refrigeration equipment. Glenn is a graduate of the York Institute.

Nashville Firm Names Parker Sales Engineer

NASHVILLE, Tenn.—Central Air Conditioning & Heating, Inc. here has announced the appointment of Carl Parker as sales engineer.

This is a promotion for the veteran air conditioning and heating man.

Parker has been with the firm for nine years, having previously served in the capacity of mechanic, service technician, and —for the past three years—general manager of the Service and Installation Depts.

1906
Engineered for mellow moods . . . the foot-powered parlor organ was a popular musical instrument in 1906. It was in 1906 that the first Brunner-engineered product appeared.
TODAY—Brunner engineering serves the industrial refrigeration field with Condensing Units for every requirement.
BRUNNER MANUFACTURING COMPANY, UTICA, N.Y.
THE BRUNNER CO., GAINESVILLE, GA.
IN CANADA: BRUNNER CORP. (CANADA) LTD., TORONTO, ONTARIO
Brunner Open-Type Refrigeration Condensing Units for industrial applications from 10 H.P. through 100 H.P. Also from ¼ H.P. to 10 H.P. for commercial uses. Brunner-Metics from ¼ H.P. through 3 H.P.
PROVEN QUALITY
50th Anniversary
BRUNNER
DEPENDABLE

Humans Can't Adjust to Great Temperature Changes

Tests Show Physiological Effects of High Temperature Include Possible Heart Injury, Fatigue, Abdominal Distress, Fainting, Poor Judgment

COLUMBIA, Mo. — "Human life simply cannot adjust to any great changes in temperature, and that is why human beings fail to function well at either extremely high temperatures or extremely low temperatures."

That was the main theme developed by Dr. W. S. Platner, professor of physiology, University of Missouri School of Medicine, in his discussion of "Air Conditioning for Human Comfort" before the Missouri U. Conference on Air Conditioning.

The narrow range of body temperatures which the human being can stand is illustrated by the fact that with a normal body temperature of 98.6°, the highest body temperature that can be endured by the human is around 106° F.

How Ability To Work Varies with Temperature

It was pointed out that humans have and can endure considerably higher ambient temperatures than 106° F., the "temperature regulating" devices, primarily the sweat glands, working to try to hold the body temperature at its normal levels under such conditions. But in so doing the individual body loses its capacity to function as effectively as it would at optimum temperatures.

For example, Dr. Platner showed that in studies of the physiological responses to heat of men at rest and at work, the "foot pounds per hour" of work which a man might do would vary as follows according to the temperature in which he was working:

225,000 at 70° F.
153,000 at 90° F.
67,000 at 100° F.

In addition to its effect on work effort, high temperatures also make physical workers more accident prone, Dr. Platner pointed out.

The actual physiological effects of high temperature include possible injury to the heart, fatigue, abdominal distress, poor judgment, and fainting.

Relative Humidity Effect Rises Sharply over 70%

When the relative humidity gets up around 70% and over, its effect on human comfort rises sharply because the body can no longer lose heat by vaporization at any appreciable rate, it was pointed out.

In discussing the conditions at which the majority of humans will be most comfortable, Dr. Platner said that while research on this is a continuing thing, the figures most commonly agreed upon now are 68° to 72° Effective Temperature in the summer, and 66° to 69° Effective Temperature in the winter.

Layman Understands Dry Bulb Temperature

However, he raised the question as to whether or not the air conditioning engineer and contractor should attempt to use Effective Temperature, which is a figure derived from the wet and dry-bulb temperatures and air motion, in working with the layman. The ordinary person may more readily understand dry-bulb temperatures and relative humidity, Dr. Platner stated.

Much of the complaint from those occupying air conditioned spaces, to the effect that temperatures aren't "right" for them, is probably caused by differences in the amount of clothing worn—this being particularly the case in differences between the amount of clothing worn by men and women. Dr. Platner suggested that employers who have air conditioned spaces might point out this fact, and urge employes to try to "even out" more in the clothing they wear.

Among the recent developments in air treatment that have attracted the attention of the medical profession, Dr. Platner listed air ionization as one which has apparently stirred up considerable interest. Ionized air has apparently brought considerable relief in some cases of hay fever, rhinitis, and asthma. It's application is generally tied in with the use of electrostatic air filtering and air cleaning.

American Blower Names Nashville Distributor

NASHVILLE, Tenn. — Braid Electric Corp. has been appointed distributor in this area for American Blower Corp.'s self-contained air conditioning units of 3 to 20-ton capacity.

Ferrell Gregory, vice president of Braid, said the firm is now appointing dealers in middle Tennessee and southern Kentucky.

Now...tripled supply
G-E small fan motor
STORAGE FOR TRIPLED SUPPLY OF OXIDATION-RESISTANT OIL
ADDITIONAL SUPPLY OF OIL FOR EXTRA-LONG LIFE MODEL
STANDARD OIL SUPPLY
1.5 TO 16 WATTS
4- and 6-pole, shaded-pole

For more information about products advertised on this page use Information Center, page 23.

Florida Utility Reports January Room Unit Sales 8% of Dealer Volume

MIAMI, Fla.—Room air conditioner sales during January amounted to 8% of total dollar volume of dealers in the territory served by the Florida Power & Light Co., the utility announced recently.

Air conditioner sales for the month were 87% higher than in the first month of 1955. Home freezer sales for January jumped 91%, ranges 51%, and refrigerators 24%, according to the report.

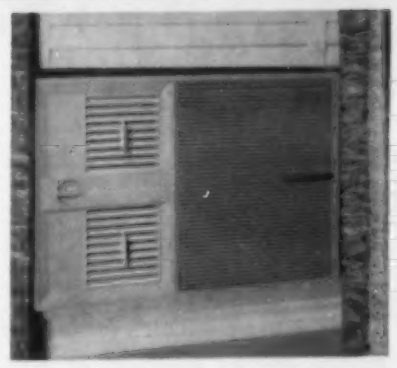
Appliance	Jan. 1955	Jan. 1956
Air Conditioners	1,159	2,166
Refrigerators	4,732	5,862
Freezers	364	697
Ranges	3,018	4,557
Dishwashers	356	529
Garbage Disposers	244	311
Automatic Washers	2,887	4,284
Conventional Washers	373	593
Clothes Dryers	386	702
Ironers	33	51

Servel Offers Distributors Premium To Jump Room Unit Sales by April 30

EVANSVILLE, Ind.—An outdoor broiler is being used by Servel, Inc., as a premium in a current promotional campaign designed to increase room air conditioner sales.

Distributors who present new orders for 50 or more room conditioners by April 30 will receive one 24-in. grill charcoal broiler with each conditioner. The broilers are on wheels and have fold-up legs and adjustable grids. They normally retail for $24.95 each.

Special newspaper ads, radio scripts, and window banners are available in connection with the promotion. Distributors may also order extra broilers at special low prices for use as tie-ins with other Servel products.



TWO ROOM air conditioners recently added to Westinghouse line include ¾ and 1-hp. models.

Westinghouse Adds 2 Room Units to Line

SPRINGFIELD, Mass. — Two new low-priced room air conditioners were added recently to the Westinghouse line, the Westinghouse Electric Corp. announced here recently.

The ¾-hp. unit, labeled the RW-75, carries a suggested list price of $274.95 and the 1-hp. model, RW-1002 is tagged at $289.95.

Both are equipped with thermostatic controls as standard equipment. The single dial control permits selection of desired temperature and humidity conditions, the manufacturer says.

No-draft grilles allow the owner to direct the flow of conditioned air to any part of the room. Both models mount flush.

Fedders Winter Room Unit Sales Up 300% Over Previous High

MASPETH, N. Y.—1956 sales of Fedders room air conditioning units are reported running at least 300% ahead of the previous high winter sales season.

From January through March, over 65,000 Fedders units have been shipped from the Maspeth, N. Y. plant, according to Salvatore Giordano, president and chairman of the board.

"At the present rate, and discounting an unseasonably cool summer, double the number of Fedders units will cross dealers' counters this year than last," he predicted.

"With all our heavy shipping," Giordano said, "we still have back-orders for more than 40,000 units."

Giordano credits the new Fedders Supreme, a ¾-hp. 7½-ampere plug-in air conditioner, for much of the sales activity.

At the distributor level, the "sold out" sign is up across the country, it was stated. Fedders' largest Chicago distributor is sold out; Newark and Washington, D. C. are on back-orders; New York can't get enough units, the company said.

Lou Lidsky, president of The L & P Electric Co., Fedders' New York wholesaler, had this to say:

"To date, we have over 25,000 signed orders for Fedders units. This is more than we sold the first half year in 1955. We should easily go 50 to 100% ahead of last year in 1956."

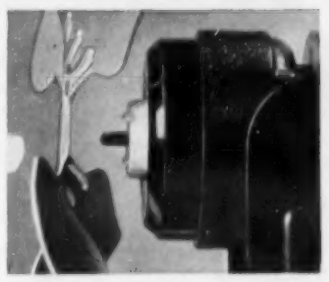
Regarding the 7½-amp. Supreme, Lidsky said that many consumers who wanted air conditioning last year but whose wiring wouldn't take it are now accepting delivery.

# of improved oil greatly extends life for extra long-term applications

Keeping pace with the demand for longer-life domestic refrigerators, freezers and refrigerating condensing units, General Electric now announces the availability of a small fan motor with greatly increased motor life! In step with the forward thinking of our customers, this new motor life expectancy is the result of 1. TRIPLED OIL SUPPLY and 2. OIL WITH INCREASED OXIDATION LIFE.

Here's how extra-long life was designed into a motor already the leader in its 1.5- to 16-watt power range: first, a new design of oil storage wicks with triple oil capacity was added. Next, laboratory technicians had to make sure that the lubricant used would hold up during the resultant extra-long projected motor life. Approved laboratory testing procedures resulted in the use of a new oil with oxidation life several times that of the best oil previously used!

Combining extra safety factors, increased oil, and additional life expectancy of the new oil thus makes possible a projected *extra-long* motor life where desired—and at only a modest price increase over the standard G-E shaded-pole fan motors of this size.



Here are more reasons why these small fan motors—both standard and extra-long life—are your best buy:

BUILT-IN HUB and special shaft mounting threads permit the use of simple, hubless, low-cost fans—saves you money on your motor and fan combination.

QUIET OPERATION—The vibration-absorbent, one-piece, cast-iron frame, plus extremely accurate alignment, add up to quiet motor operation.

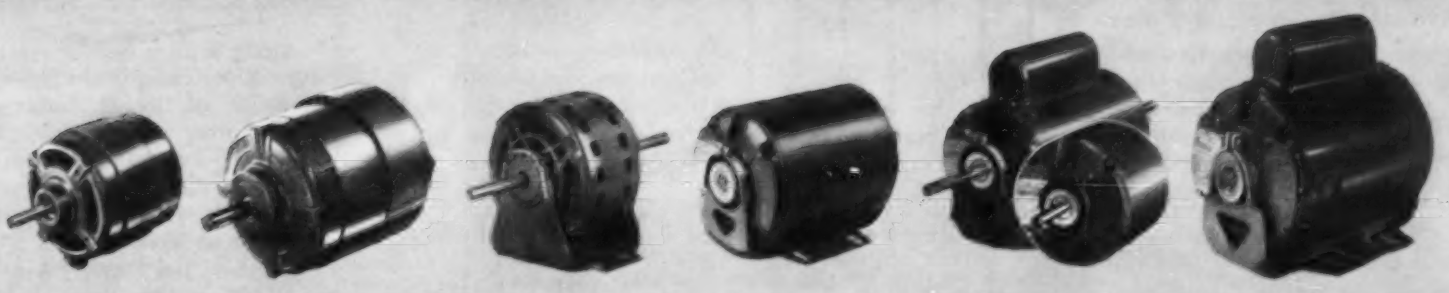
SIX-POLE DESIGN—the only one of this size on the market—has been developed for applications such as home freezer systems, condenser cooling fans, etc., where lower fan and air noise is desirable.

EXPERT APPLICATION HELP from G-E engineers is available to you. For complete shaded-pole motor service, contact your local G-E Apparatus Sales Office. Or write for Bulletin GEA-6134 to Section 632-2, General Electric Co., Schenectady 5, N. Y.

Progress Is Our Most Important Product

GENERAL ELECTRIC

SETTING THE PACE IN MOTORS FOR THE AIR CONDITIONING AND HEATING INDUSTRIES



15 TO 35 MHP 2- and 4-pole, shaded-pole

25 MHP TO 1/12 HP shaded-pole and perm. split cap.

1/12 TO 1/4 HP 4- and 6-pole, shaded-pole

1/6 TO 1/2 HP, split-phase

35 MHP TO 1/2 HP perm. split-cap.

1/6 TO 3/4 HP, capacitor start

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

How Did Culture Get Into This?

What did baseball ever do for grand opera? Not so silly a question as the musical carriage trade might think.

Father of Geraldine Farrar, a truly great opera star, was first baseman for Philadelphia in the National League during the 1880's. (His first name was Sidney, incidentally.)

Daughter Geraldine, a child prodigy, deserved expensive singing lessons. Sid couldn't afford them. But his teammates, who admired the little girl, figured out a plan.

In those pre-refrigeration times nearly everything which needed preservation was wrapped in tinfoil. Pound balls of used tinfoil commanded good prices from second-hand dealers. (Used to save them, too, as a little shaver—didn't you, Mr. Young Old-Timer?)

Forthwith Sid Farrar's teammates began collecting tinfoil. Likewise, Philadelphia fans. The tale of Sid's little girl spread around the National League, and other cities got into the act.

Result: Geraldine was educated right into "The Met" by her father's baseball fraternity of players and fans—and their tinfoil collections.

Emotion vs. Loyalty

Several major league ball clubs take pride in at least one foghorn-voice fan who is a local celebrity. Septuagenarian Mary Ott was one such in St. Louis. Ageless Patsy O'Toole, likewise, in Detroit. And the Brooklyn Dodgers had their cowbell-ringing, gravelly-throated Hilda Chester.

Moreover, Hilda had a predecessor in Brooklyn—a loudmouth who hasn't been further identified than as Abie the Truck Driver. His daily insults to "dem Bums" so annoyed Uncle Wilbert Robinson that the latter gave Abie a lifetime pass to Ebbetts Field. In return, Abie promised to keep his mouth shut.

That he did for a whole week. Then he turned in his free-for-life ticket, and bought his way into the park thereafter.

"I can't stand it. They're always Bums!" he exploded.

Check and Checkmate

Yankee Front Office received a letter from a soldier criticizing Stengel's platoon strategy. This was shown to Ol' Case, who dictated the following brief reply:

"If you're so smart, let's see you get out of the Army."

The Bad Old Days

Baseball today is a lot more formal than when Joe Cantillion was umpiring.

For some reason Joe had a "mad on" Dick Cooley. Came a day when the latter smacked a 400-footer over a centerfielder's head. Cooley figured he had at least a triple, and legged it around the basepath head down.

As he careened toward third, Cantillion was there, egging him on (to Cooley's surprise). "Home, boy," shouted Cantillion. Dick slid into the plate.

"You're out!" gestured Umps Cantillion.

"Whu, whu, you uh," spluttered Dick.

"Yeah," triumphed Cantillion, "you've been out ever since your fly ball was caught."

Shorter Hours Now

Stoutest iron-man performance of all time:

Sept. 26, 1908, Chicago's Ed Ruelbach pitched a double header. Not only that. He shut out Brooklyn twice that afternoon, 5-0 and 3-0.

Nowadays if a starting pitcher lasts nine innings it's news. Contrast:

Christy Mathewson won 35 games in 1940 without help from the Bull Pen; Cy Young tossed 51 full games without relief in 1893. He won 30 of them. And "Iron Man" Maginnity pitched successive shutouts in a double-header.

Mind you, in those days, a foul ball didn't count as a strike!

Broadcast Boners

Nervous? You be the judge. First radio broadcast Byrum Saam made for the old Philadelphia Athletics was the opening game of 1938. His first sentence over the air waves:

"Good afternoon, Byrum Saam, this is everybody speaking."

Later he described a double by Goose Goslin:

"Johnson is going back, back. He bangs his head against the wall, picks it up, and throws it in to second base."

They loved him for these mistakes, and he stayed in the radio business for two decades.

Wit from the Pulpit

Owner Tom Yawkey (Boston Red Sox) sat next to Cardinal Spellman at a civic celebration.

"Your Holiness," offered Mr. Yawkey, "be my guest at tomorrow's game against Cleveland."

"Sorry, but I must decline your kind offer. Last time I visited a ballpark a foul ball plinked me on the knee. Can't take a chance on that happening again. Must keep my knees in good condition, y'know. I have to pray in *my* business."

Muttered Yawkey: "So do I."

Detoured Sportsmen

Reporter for an Eastern newspaper accompanied Sports Edifor Jimmy Burns of the *Miami Herald* to a racetrack—as surcease from dull spring baseball training workouts.

"Hope I break even today on the hosses," fervented the sportscribe. "My family needs the money."

Along with a few other touring Americans, "Ducky" Joe Medwick of the St. Louis Cardinals, was audienced by Pope Pius.

"What do you do for a living?" His Holiness sought to put him at ease.

Rattled, Joe blurted out:

"I'm a Cardinal, Father."

Midsummer of 1954 the then Brain of the Cubs, Wid Matthews, recalled pitcher Bob Zick from Beaumont. Bob reported to Manager Stan Hack prior to a mismatch in Brooklyn.

"I'm Zick," he announced.

Without looking up, dejected Hack responded:

"Don't feel so hot myself."

Now!

FOR REFRIGERATION...

BUY WOLVERINE ALUMINUM TUBULAR PARTS

Pre-assembled

You can save time and money when you order Wolverine pre-assembled refrigeration parts of aluminum. It's another Wolverine one-source service! You can eliminate heliarc welding and assembly operations in your own plant, save process handling operations and improve production line efficiency.

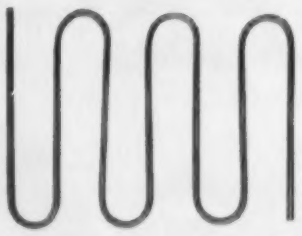
Illustrated at the right is Wolverine's new refrigeration assembly for freezers and refrigerators. Here is pre-fabrication at its best. The assembly's accumulator, for example, is produced by Wolverine's famous Spun End Process*—which means leak-proof, one-piece parts. Neither a coolant or metal lubricant is used during spinning and the finished accumulator is clean, dry, bright—requires no added metal cleaning before going into your refrigeration system. The bunch-type aluminum coil is available in lengths and diameters to meet your specifications. The aluminum-to-copper connector simplifies assembly installation in your home freezer or domestic refrigeration units.

Fill in the coupon below for complete information about Wolverine's pre-assembled refrigeration products and services.

WOLVERINE TUBE, 1413 Central Avenue, Detroit 9, Michigan.

*A PATENTED PROCESS RE. 22695

Each of the components in Wolverine's evaporator assembly may be ordered individually. Either way—as a complete assembly or as a separate part—you are assured of Wolverine Tubemanship—top quality by a company that knows *both* tubing and the refrigeration industry, its individual problems and requirements.



Wolverine's aluminum serpentine coil gives a maximum length of tube in a small space and can be fabricated to your exact specifications. Ends can be expanded or reduced for connections or left plain as desired.

MAIL TODAY

Please send me complete information about Wolverine's refrigeration products and services. I am interested in:

☐ Completed assemblies ☐ Connectors

☐ Accumulators ☐ Coils

NAME.....

COMPANY.....

STREET.....ZONE.....

CITY.....STATE.....

DIVISIONS OF CALUMET & HECLA, INC.
CALUMET DIVISION
WOLVERINE TUBE DIVISION
CANADA VULCANIZER & EQUIPMENT CO., LTD.
FOREST INDUSTRIES DIVISION
GOODMAN LUMBER CO.

WOLVERINE TUBE
Division of Calumet & Hecla, Inc.
Manufacturers of Quality Controlled Tubing and Extruded Aluminum Shapes

PLANTS IN DETROIT, MICH. AND DECATUR, ALABAMA.
SALES OFFICES IN PRINCIPAL CITIES
EXPORT DEPARTMENT, 11 EAST 44TH STREET, NEW YORK 17, NEW YORK

For more information about products advertised on this page use Information Center, page 23.

Wholesaler Holds Own 'Exposition'

BURLINGTON, Vt.—Blodgett Supply Co., Inc. has announced that its fourth Vermont All-Refrigeration Exposition will be held Tuesday and Wednesday, April 24 and 25, at the company building, 44 Lakeside Ave. here.

The exposition is designed to provide refrigeration servicemen and salesmen with "the latest information on the latest refrigeration and air conditioning equipment and supplies."

Some Displays From Atlantic City Show

Some 30 national manufacturers will have displays manned by factory representatives who will stage demonstrations and answer questions. Displays that were shown at the 9th ARI Exposition in Atlantic City late last year will be set up for the show here, according to J. A. Audley, sales engineer for Blodgett Supply.

The exposition program for Tuesday includes registration from 8 to 9 a.m., open house with displays and demonstrations from 8 a.m. to noon, a luncheon at Old Board, a series of talks on refrigeration problems in the afternoon, a warehouse buffet supper after which the displays will be in operation again, and a tube bending contest. On Wednesday, the displays will be open all day.

List of Participating Manufacturers

Manufacturers which have scheduled displays and demonstrations are:

Detroit Controls Corp.; White-Rodgers Electric Co.; Bush Mfg. Co.; Brunner Mfg. Co.; E. I. du Pont de Nemours & Co., Inc.; The Imperial Brass Mfg. Co.; Kelvinator Div., American Motors Corp.; Alco Valve Co.; The McIntire Co.; Virginia Smelting Co.; Armstrong Cork Co.; Linde Air Products Co.; Grady Welding Supply; Temprite Products Corp.

Also, Allin Mfg. Co.; Jarrow Products, Inc.; Bonney Forge & Tool Works; Koch Refrigerators, Inc.; American Gas Machine; Esco Cabinet Co.; Coldin Cabinet Co., Inc.; Philco Corp.; Sta-Rite Products, Inc.; Bacharach Industrial Instrument Co.; and Millers Falls Co.

Also represented will be the New England States Association of the Refrigeration Service Engineers Society.

Speakers Listed

Speakers for the Tuesday afternoon session will be Neil Collins, Kelvinator; Bob Spence, Alco Valve; "Micky" Meiklejohn, McIntire; Lawrence Burbank, American Gas Machine; Rich Lambert, Bush; Orrin West, Detroit Control; and Tom Allen, Virginia Smelting.

Collins will show a service film, "How Are Your Relations," and give an illustrated lecture on the sale and service of Kelvinator sealed units and allied equipment. Spence will hold a discussion on the problem of refrigerant controls.

Meiklejohn is to talk on the problems of dirt and moisture in existing systems, and Burbank will speak on the installation and service of ice cubers and flakers. Lambert will give an illustrated lecture on water saving devices in the air conditioning field, West will present an illustrated talk on various types of power element charges in T.X.V.'s, and Allen will speak on water treatment chemicals.

In the Imperial tube bending contest, prizes will be awarded for the three best jobs. A committee of servicemen will do the judging.

Ultrasonic To Diversify; May Acquire Other Firms

CAMBRIDGE, Mass.—Ultrasonic Corp. announced recently that it is preparing to issue new securities to provide capital.

The firm, which manufactures a variety of products including air conditioning equipment, indicated that it intended to diversify and was carrying on discussions for the acquisition of one or more companies.

Kennard To Construct New Plant

ST. LOUIS—Sam M. Kennard, III, president of Kennard Corp., announces that construction has started on a new manufacturing plant in St. Louis County which will be approximately double the size of Kennard's present one.

The new plant will be completely air conditioned and will utilize the most modern material handling equipment, Kennard said. Ample ground for an expansion program has been provided.

A complete three-dimensional scale model of the building and equipment was set up to develop the best possible lay-out for the most efficient flow of materials.

The entire manufacturing operation will be moved into this new plant. Exact completion date is not set, but full production is expected by the end of the year.

5 WAYS TO
save
with ALCO 402
Thermo Valves.....
IN
OUT
SAVE SPACE – Squeezes into tight spots.
SAVE INSTALLATION TIME – Liquid charge permits quick mounting in any location, any position.
SAVE SERVICE TIME – Simple construction with all adjustments sized for standard service wrench. Removable strainer for two-minute cleaning.
SAVE MOTORS – Separate pressure limiting element prevents overload.
SAVE MONEY – These thrifty features add up to big dollar savings for you and your customers.
ALCO 402—THE SMALL-FIXTURE VALVE—ENGINEERED FOR SERVICE ENGINEERS
402-1 — up to ¼ ton "F-12" or ½ ton Methyl Chloride
402-2 — up to ½ ton "F-12" or 1 ton Methyl Chloride
402-4 — up to 1 ton "F-12" or 2 tons Methyl Chloride
SEE YOUR ALCO WHOLESALER
Designers and Manufacturers of Thermostatic Expansion Valves; Evaporator Pressure Regulators; Solenoid Valves; Float Valves; Float Switches.
ALCO VALVE CO.
853 KINGSLAND AVE. • ST. LOUIS 5, MO.

Home Cooling Load Calculation Explained In New I-B-R Guide

NEW YORK CITY—A complete step-by-step procedure for calculation of residential cooling loads is presented in the new I-B-R Guide C-30, published recently by the Institute of Boiler & Radiator Manufacturers.

It will be available June 1.

The institute's first guide on cooling has been prepared for use by anyone in the heating-cooling field, regardless of previous experience or technical training.

This guide reduces to simplicity the calculation of residential cooling loads without loss of accuracy. It was particularly designed to save the installer time, effort, and error by eliminating much of the long-hand figuring conventionally required, the institute further declares.

C-30 complements I-B-R's Heat Loss Calculation Guide, H-20, which was published last year. Both of these guides were prepared by Arthur L. Wales, I-B-R technical secretary, with the assistance of I-B-R committees. They are planned to answer in advance the questions which have been asked by students in I-B-R schools Wales has been conducting for many years.

Guide C-30 incorporates consolidated tables for determining area and volume without use of mathematics. Also included are definitions of basic terms (cooling load, dewpoint, refrigeration cycle, etc.).

Another section outlines the importance and procedure for making a survey prior to computing a cooling load. This is followed by a listing of 11 steps which will accurately take the installer from start to finish in his calculation.

New calculation sheets, designated No. 3001, have been prepared for use along with the cooling guide. They are designed for logical recording of information as the calculation procedure is followed. Contractors have long been familiar with similar calculation sheets which are used with various other I-B-R guides.

In Guide C-30, the rate of heat flow per hour is averaged over a 24-hour period and is called the "I-B-R Heat Gain Factor." Prices are $1 for the guide and $1.25 for 50 calculation sheets.

Fraser & Johnston Names Mechanical Homes, Inc.

SAN FRANCISCO—Fraser & Johnston Co., manufacturer of gas-fired, forced-air furnaces and air conditioning equipment, announces the appointment of Mechanical Homes Inc., Chicago, as its newest distributor.

Rogers Follansbee is president of Mechanical Homes.

Fraser & Johnston makes "Lo-static" air conditioning coils to exactly match each item in its furnace line.

The initial project supplied with Fraser & Johnston equipment, complete heating and air conditioning, is now in the construction stage in Libertyville, Ill., it was reported.

21 EXTRA Benefits That Owner Gets From Residential Air Conditioning

DETROIT—For the residential air conditioning dealer in areas where the cooling season is short, Airtemp Div. of Chrysler Corp. has listed 21 benefits the customer gets with home air conditioning—and not one of them is cooling.

As outlined by A. J. L. Moritz, merchandising manager of residential air conditioning, they are:

1. Cooking becomes a pleasure.
2. Dispositions are better.
3. Home is drier.
4. Mildew is kept at a minimum.
5. A healthier climate—hay fever and heat rash will actually disappear.
6. Better placement of furniture is possible.
7. Appetities are better, yet gaining weight is not a factor because members of the house are apt to work and exercise.
8. More sleep.
9. Cleaner, less housework.
10. Entertaining becomes a pleasure.
11. Domestic help is easier to keep.
12. Rain and burglers are kept out because windows do not have to remain open in the summer time.
13. Psychological advantage because you are more prone to enjoy working in the garden when you know you can come into the house and cool off.
14. Drawers and doors won't stick.
15. Floors and doors stop creaking.
16. Piano does not need tuning so often.
17. Laundry dries quicker.
18. Moths and insects won't fly through open windows.
19. Noise of children playing outside, trucks and buses passing by, the neighbors, etc. is at a minimum.
20. Indoor plants grow better.
21. Privacy for the entire family.

General Controls Names John Sensenig, Jr.

GLENDALE, Calif. — John Sensenig, Jr. has been appointed regional representative for the air conditioning and refrigeration controls division of General Controls Co., it was announced by J. F. Ray, the firm's vice president in charge of sales.

Sensenig will be located at the General Controls factory branch in Dallas, Texas.

Howard Smith Takes Sutton District Post

WICHITA, Kan. — The appointment of Howard Smith as district sales manager for The O. A. Sutton Corp., Inc., in the Atlanta, Chattanooga, Knoxville, Jacksonville, and Miami areas has been announced by Wes Brient, sales manager. Brient stated that Smith will be in charge of Vornado central promotions in the aforementioned area.

system air conditioner sales and

For the past 11 years Smith has been actively engaged as district sales manager for appliance manufacturers. He also has several years' retail sales experience gained through the operation of his own appliance business. He has been employed by both General Electric and Frigidaire to conduct sales and service training schools, it was noted.

New From Honeywell!

Specially designed for air conditioning systems with remote condensing sections

A heating-cooling control panel in two parts!

OUTSIDE!

The W400 panel is mounted outside in the condensing section.

It operates the compressor and the condenser fan on demand from the *inside* (W226) control and the room thermostat. The W400 also provides Hi-Lo pressure control for dependable, safe operation.

Convenient knockout arrangement and accessible, clearly marked terminals make for easy field wiring.

The new W400 has the exclusive new design Honeywell contactors for sure starts and positive stops, with design features that minimize arcing and eliminate sticking.

It also gives you the economical choice of 24, 30 or 40 amp contactors, depending on your requirements.

Corrosion-proof case and cover available where required.

For more information about products advertised on this page use Information Center, page 23.

12-Point Plan Sparks Tampa Heat Pump Sales

TAMPA, Fla. — A 12-point plan to spark heat pump sales was formulated here by the sales department of Tampa Electric Co., Gilbert D. Leach, Jr., president, announced.

Claimed to have created an "enviable" heat pump sales record, the plan was devised after conducting field tests and studying the heat pump market for over two years, Leach stated.

"Enthusiastic customers and aggressive dealers have teamed up with the utility to set this record," he said.

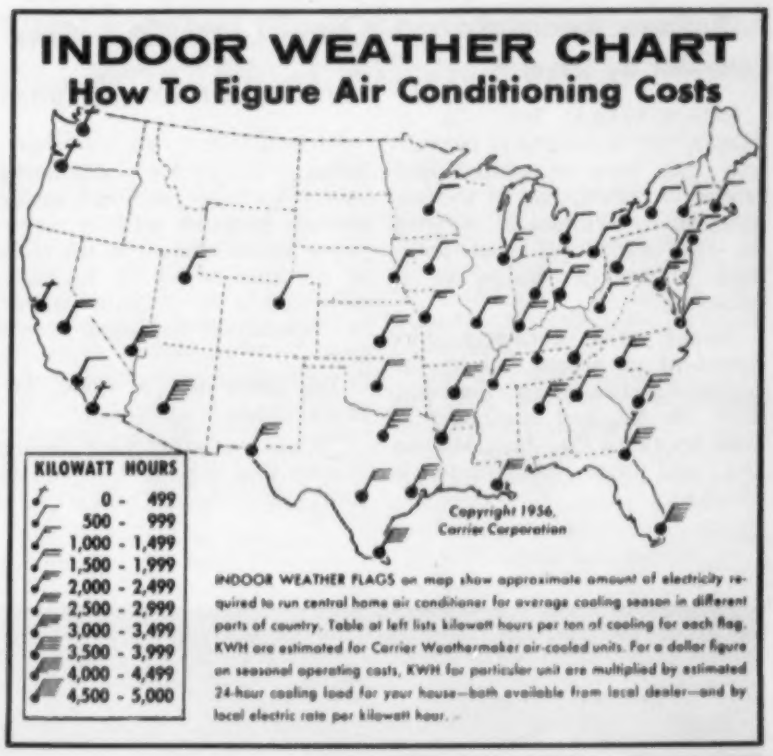
Here is what the firm did:

1. Prepared a 4-page multi-color heat pump promotional folder.
2. Prepared a complete Heat Pump Data Manual for architects, engineers, and dealers.
3. Ran "eye-catching" and informative advertisements in 20 newspapers.
4. Used "live" and film presentations of heat pump to television audiences from two TV stations.
5. Provided heat pump dealers with free stamping and mailing for their direct mailings.
6. Sponsored heat pump displays in Electrical Expositions and Home Shows.
7. Sponsored several model homes with heat pumps.
8. Aggressiveness in encouraging heat pump manufacturers to establish active dealers in the Tampa area.
9. Prepared feature articles on the heat pump for newspapers, trade publications, and builders magazines.
10. Provided financing plan for employes wishing to install heat pumps in their homes.
11. Installed heat pumps in their own office buildings.
12. Continued to conduct field tests for operating data.

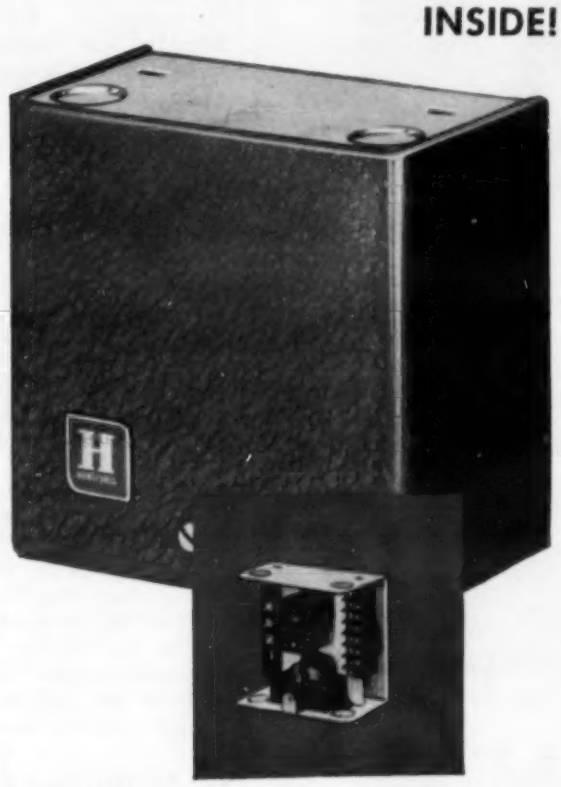
How Much Will Home Cooling Cost?

The chart at right shows how to figure cost of a season of cooling in different parts of the country. The cost estimating chart was developed by Carrier air conditioning experts after several years of research. It is based on the number of days a year and the number of degrees the temperature goes above 70° F., and on the temperature swing in each location.

To determine actual cost, the Carrier 24-hour load calculating method is used to estimate the average amount of cooling required over the entire day and night. This estimate is also used to determine the size of unit required. Kilowatt hour consumption for the particular unit is obtained from a simple table provided Carrier dealers. It is then multiplied by the load estimate and by the local electric rate per kilowatt hour.


INDOOR WEATHER CHART
How To Figure Air Conditioning Costs
KILOWATT HOURS
0 - 499
500 - 999
1,000 - 1,499
1,500 - 1,999
2,000 - 2,499
2,500 - 2,999
3,000 - 3,499
3,500 - 3,999
4,000 - 4,499
4,500 - 5,000
Copyright 1956, Carrier Corporation
INDOOR WEATHER FLAGS on map show approximate amount of electricity required to run central home air conditioner for average cooling season in different parts of country. Table at left lists kilowatt hours per ton of cooling for each flag. KWH are estimated for Carrier Weathermaker air-cooled units. For a dollar figure on seasonal operating costs, KWH for particular unit are multiplied by estimated 24-hour cooling load for your house—both available from local dealer—and by local electric rate per kilowatt hour.

INSIDE!



The W226, inside the house, sequences the cooling and heating equipment on demand from the room thermostat.

This attractive W226 panel is available in six different models to provide the exact sequence you want for your customers. Each is prewired to simplify installation with "wrap-around" design that completely exposes terminals when the cover is off for easy servicing.

The small and compact panels are available in the following models

W226A—single-speed fan relay and transformer.
W226B—2-speed fan relay and transformer.
W226C—single-speed fan relay, heating relay and transformer.
W226D—2-speed fan relay, heating relay and transformer.
W226E—single-speed fan relay, reset relay and transformer.
W226F—2-speed fan relay, reset relay and transformer.

Only 115 volts required *inside* to power 40 Va Transformer for low-voltage control system and *all* inside heating-cooling equipment.

Order your condensing units with Honeywell W400 panels—offer your customers their choice of thermostat operation with the flexibility of the W226 line.

- Attractive—compact
- Less field wiring
- Easy installation
- Customers choice of thermostat sequencing
- Only two 24 volt wires between inside and outside panels
- Only 115 volts required at furnace and evaporator section—230 volts to condensing unit outside
- Famous Honeywell quality
- One manufacturer—undivided responsibility
- Factory built and factory *guaranteed*

MINNEAPOLIS
Honeywell

112 OFFICES ACROSS THE NATION

Year-Round Temperature Controls

For full information on the Honeywell 2-part Control Panel for air conditioning systems with remote condensing units, call your local Honeywell office or write to Honeywell, Dept. AN-4-80, Minneapolis 8, Minnesota.

Chicago Hotels Now In Midst of Cooling Boom, Gove Tells Hotel Men

CHICAGO—Major hotels here are in the midst of an air conditioning boom which will involve a "cool" $50 million before the job is completed, an automatic temperature controls executive said recently.

Four large Chicago hotels "are already installing complete central air conditioning systems," said W. T. Gove, hotel industry manager for Minneapolis-Honeywell Regulator Co.

By making installations in the final unit of 130 rooms the Drake is completing its air conditioning program. The Conrad Hilton, Palmer House, and Sheraton-Blackstone also have conditioning programs under way.

The Edgewater Beach is joining the trend by making test air conditioning installations and the LaSalle is planning to launch an air conditioning program, Gove added.

Gove explained the Chicago air conditioning boom at a panel discussion on hotel operating costs at the 1956 Midwest International Hotel Show.

Wakefield Will Hold Open House April 29 In 'Unusual' Quarters

VERMILION, Ohio — Wakefield Co. will hold open house here April 29 to show its new office building and plant extension with what is claimed to be "near-perfect luminous, thermal, and acoustical conditions."

The manufacturer of lighting systems and multi-functional ceilings has installed such a suspended ceiling throughout the office interior. Its functions include distribution of conditioned air through acoustical baffles said to reduce office noise.

Reduction in size and weight of lighting ballasts made it possible to install air conditioning equipment of 25-ton capacity, the company stated.

Larger ballasts would have necessitated a 30-ton system due to greater heat generation, it was added.

A. A. Pieper Appointed Controller by Servel

EVANSVILLE, Ind. — A. A. Pieper, an accounting consultant, has been appointed controller of Servel, Inc., it was announced by William H. Schrader, the company's vice president placed in charge of finance.

Pieper was formerly vice president of accounting at Republic Aviation Corp., Farmingdale, N. Y., and controller of Ball Brothers Co., Inc., Muncie, Ind., and Ditto, Inc., located in Chicago.

Open Letter Ad Asks for Opportunity To Service Air Conditioners Before Rush Begins

RICHMOND, Va. — Catlett-Johnson Corp., air conditioning specialists here, promoted spring service business with a newspaper advertisement in the form of an open letter to businessmen signed by J. Tabb Meyer, Jr., operations manager of the firm.

The letter began, "Dear Mr. Businessman," and read:

"When you start your cooling system this spring, it should be thoroughly checked and serviced by an experienced mechanic to see that all equipment is in the best possible condition.

"Our service department is available for this work, whether or not we made your original installation. When the first hot weather comes there will be an enormous demand for service so we suggest that you call Raymond Wood, our service manager, now and get your order in line for the most prompt attention."

Food Retailer Talks: *Tells What He Expects of Refrigeration Contractor*

DETROIT — What does the food store operator expect from the commercial refrigeration contractor?

Just plain honesty and sincerity, Joe Krone, vice president in charge of operations for the Lucky-Food Fair Stores chain here, told the Detroit chapter of the Refrigeration and Air Conditioning Contractors Association recently in an explanation of food retailer's ideas.

"The honesty and sincerity with which you do your job is the key to success," he declared.

"We don't sell equipment," he reminded them. "We sell food. The equipment is a necessary evil to us.

"We are only interested in equipment that does the job of selling meat, produce, or frozen foods.

"When we spend money on equipment, it is gone. We never see it again. If a can of peas goes bad, we can get our money back.

"Not so with refrigeration equipment and service.

"Refrigeration equipment is pretty much alike to us. As with automobiles, if one make gives us trouble, we switch to another.

"If we have good luck with it, we stick with that brand of equipment.

"As I see it, about all you have to sell is service. Honest, sincere service. When you come to us selling equipment, we don't care about the technicalities of the equipment. We want you to honestly and sincerely tell us what you will do for us not only when you install the equipment but afterwards. The afterwards is the more important. That is all we want."

Krone admitted that the retailer is not a technician in refrigeration. The food man, he said, "feels that you should know what you are doing when you go into the installation business."

He said he finds it a bit irritating to have parts changed just because it wasn't put in right in the first place.

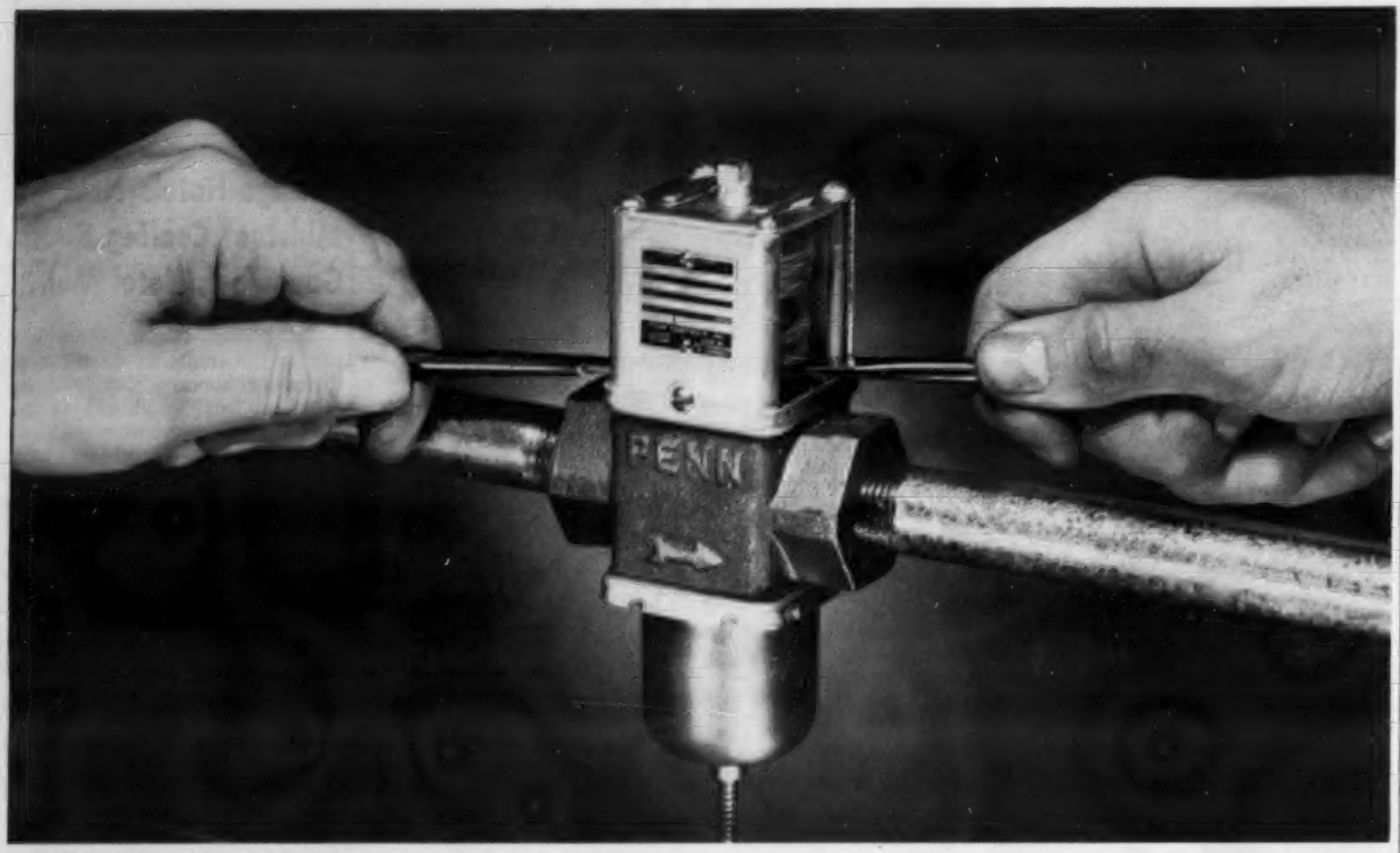
"We may not know the technicalities of refrigeration," he asserted. "We don't know when you charge us for 25 lbs. of gas, the system only holds 10 lbs. But we are learning.

"On the whole," he assured the contractors, "you are doing a good job and have provided honest, sincere service."

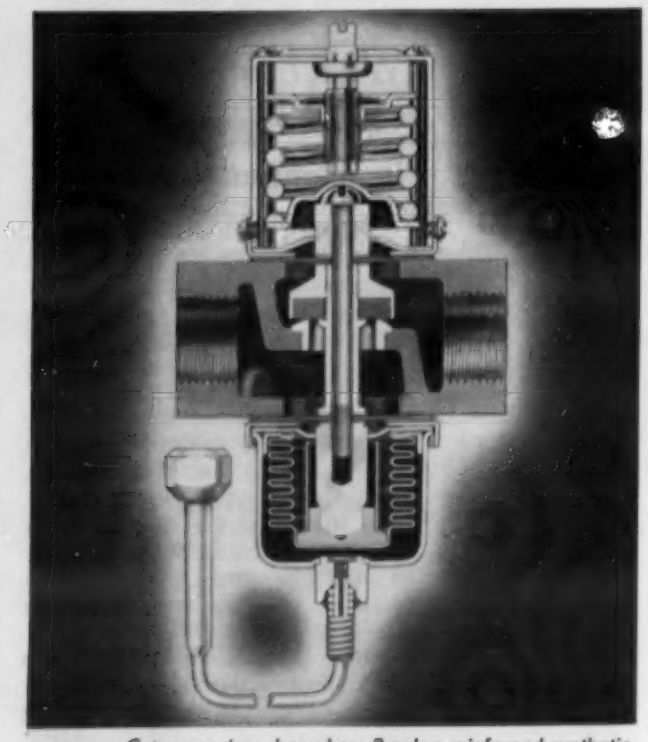
G.M.Nutter Appointed Gibson Distributor

GREENVILLE, Mich. — The Gibson Refrigerator Co. has announced the appointment of G. M. Nutter, Inc., Cleveland, as distributor for the Cleveland-Youngstown trading area of Ohio.

Officers of G. M. Nutter, Inc. include H. F. Kloha, president-treasurer; E. L. Stalnecker, sales manager; J. Eshner, secretary; and J. E. Hausser, service manager.



SEE HOW EASY IT IS TO FLUSH PENN WATER VALVES



Cutaway view shows how 2 nylon-reinforced synthetic diaphragms in Penn water valves keep water away from the bellows, range spring and sliding parts. Penn puts an end to rust, corrosion and sedimentation, the deadly enemies of ordinary water valves.

2 screw drivers, a flip of the wrists - and PENN is ready for long, trouble-free service

Only Penn water valves offer such easy manual flushing! And, you know how important it is to flush out any newly-installed water valve. With Penn, all you do is insert two screw driver blades under the range spring and lift up. All the pipe cuttings, solder balls, rocks and other foreign material that normally get into the water lines during installation are washed away. Easy-to-flush, Penn eliminates those costly service call-backs due to improper valve seating.

That's just part of the story. Penn water valves are highly sensitive to changes in refrigerant head pressures, assuring top efficiency. There's no valve chatter, no water hammer, no rusting of range spring, no corrosion of sliding parts. Sizes from ⅜" to 2½" in flanged or threaded styles—and also available for temperature actuated service. Ask your wholesaler.

PENN CONTROLS, INC. Goshen, Indiana

AUTOMATIC CONTROLS FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

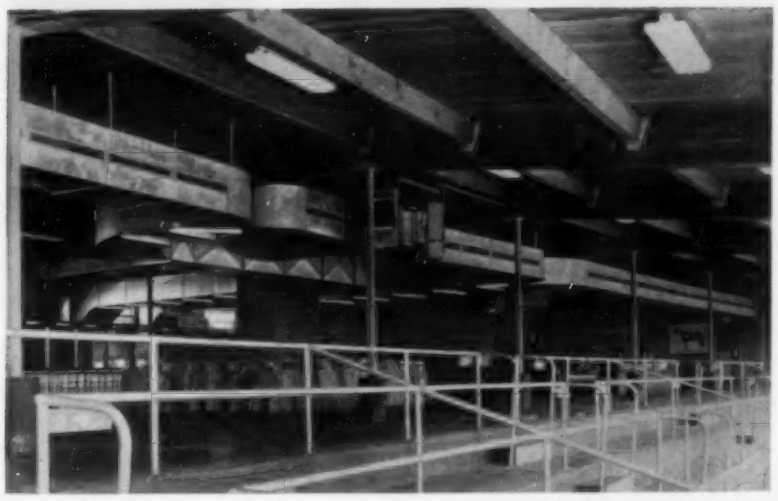
IDEAL Speed-Freeze PRODUCTS

BEVERAGE COOLERS AND INSTANTANEOUS DRAFT BEER COOLERS. (With Refrigerated Faucets)

WRITE IDEAL COOLER CORPORATION 2953 EASTON AVE • ST. LOUIS 6, MO.

For more information about products advertised on this page use Information Center, page 23.

3 Central Station Units Air Condition Bettors In Chicago Race Track Building



A PORTION of the air conditioning duct system which spans the top floor of Sportsman's Park pari-mutuel building in Chicago is shown here. Two floors are supplied with 140 tons of cooling to make those placing bets more comfortable. This area is always the most crowded on afternoons the horses run.

CHICAGO—Followers of the "sport of kings" are now served by a king-size air conditioning system when they attend races at Chicago Sportsman's Park.

For the comfort of the oval's thousands of patrons, the entire top two floors of the Sportsman's Park pari-mutuel building have been completely air conditioned. Three Chrysler Airtemp "packaged" central station air conditioners supply the two floors with 140 tons of cooling.

The sizable cooling units are mounted on a special steel-frame structure located at the rear of the building and the conditioned air they furnish is distributed by means of duct systems which span—lengthwise—the entire wagering areas of the third and fourth floors of the structure.

In designing and constructing the steel framework on which the air conditioning equipment is located, ample room was provided for the addition of three more cooling units at a later date when the building's two lower floors are enclosed and air conditioning added.

Sportsman's Park officials have commented that air conditioning of a similar nature is also being considered for other tracks operated by the racing group.

Bahnson To Air Condition Carding, Spinning Depts. of Limestone Sheeting Mill

GAFFNEY, S. C.—The Limestone Mills here has awarded a contract to the Bahnson Co. of Winston-Salem, N. C., to air condition the entire upper floor of the company's sheeting mill.

Amount of the contract was not disclosed, but Vice President T. G. Roche was quoted as saying it would be "several hundred thousand dollars."

Roche said the new system will provide an approximate temperature of 84° and will maintain a 50 to 53% r.h. throughout the plant's carding and spinning departments on the upper floor.

He added that the Bahnson company expects to deliver the air conditioning equipment by late May and complete installation of the refrigeration system in mid-summer.

Corrections Officers Demand Conditioning For N. Y. City Prison

NEW YORK CITY—In one of three resolutions adopted at a recent meeting of the Correction Benevolent Officers Association, members demanded air conditioning at "windowless" City Prison to end "horrible" summer conditions there.

The 300 association members attending the meeting unanimously approved the resolution, along with two others calling for pay increases and better departmental working conditions.

Colden Brown, vice president of the group, declared that if city officials fail to act soon on the union demands, another meeting will be held to consider "walking on City Hall."

The association claims to represent 1,200 eligible workers.

150 Selected York Employes Complete Course In Use of Atomic Energy

YORK, Pa.—S. E. Lauer, president of York Corp., disclosed recently that in line with the company's policy of offering training courses for its employes, a selected group of 150 executives, junior executives, and engineers has completed a course in nuclear power.

Interest in the possibilities of application of atomic energy to peaceful uses in private enterprise was demonstrated by the attendance of this group at a series of evening meetings in order to be better informed on the subject, he addd.

The course, prepared by the National Industrial Conference Board is designed primarily for business executives who may not be scientifically trained, but who are concerned with future developments in the use of nuclear power for peaceful purposes.

Although somewhat technical, the course conducted by Neil Hopkins, the corporation's director of research, enabled those in attendance to grasp the fundamental principles involved, Lauer said.

Hopkins, who holds both B.S. and M.S. degrees from Massachusetts Institute of Technology, is a member of the Atomic Industrial Forum and recently completed a special course in nuclear engineering at the North Carolina State university.

Concerning the course, Lauer said that with the potentialities for application of atomic energy to peaceful uses in private enterprise, there is a need for a better understanding of this whole matter by industry.

THE NEW UNARCO DYNA-PAC

...FEATURING BOTH ECONOMY AND EFFICIENT LONG LIFE

- 2-, 3-, 5-ton capacities in water-cooled or air-cooled models
- For residential and commercial installations
- Selective manual humidity control
- Built-in plenum
- 4-way adjustable top air discharge on free blow models

The all-new UNARCO Dyna-Pac meets the challenge of better air conditioning at lower cost. What's more, it was designed with the installing contractor in mind. All Dyna-Pac units are pre-wired and pre-piped for easy, low-cost installation.

There is economy in both the low initial cost and minimum maintenance required. There is also economy of space with the compactly designed DYNA-PAC. Duct models can be attached to existing warm air heating systems to provide year 'round conditioning.

Write Dept. HC-105 for full information, including catalog and prices.

UNION ASBESTOS & RUBBER COMPANY
332 South Michigan Avenue, Chicago 4, Illinois

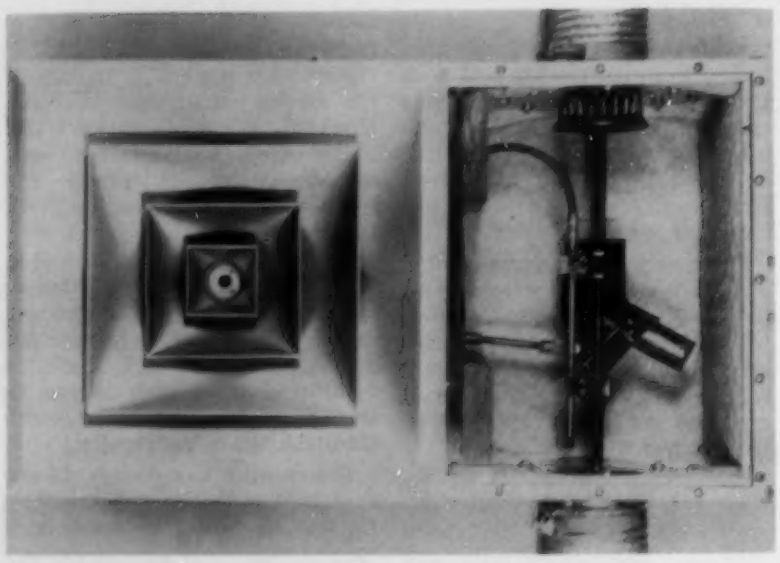
The Royal-Aire—by UNARCO—representing the ultimate in packaged air conditioning equipment. Available in 5 models, 3 through 15 h.p.

UNARCO PACKAGED AIR CONDITIONERS

HAVE YOU ENROLLED IN UNARCO'S DEALER PLU$ PLAN? WRITE NOW FOR FULL DETAILS OF BIG DEALER AWARD PROGRAM.

For more information about products advertised on this page use Information Center, page 23.

Attenuator-Diffuser Unit Has Proportional Mixing Valve



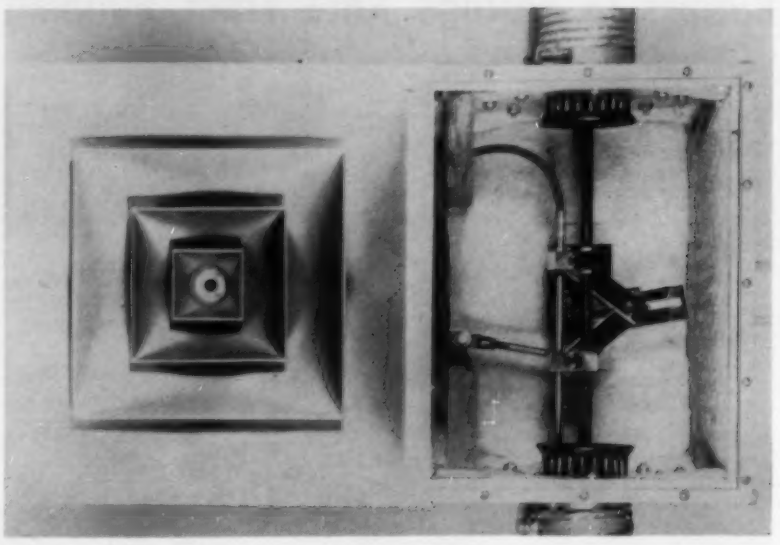
HOT DUCT is shown all the way open, the cold duct closed. In this adjustment, air supplied to the conditioned area will be at the maximum temperature.

Anemostat Varies Hot, Cold Supply Without Changing Air Volume

NEW YORK CITY—Anemostat Corp. of America here has introduced a proportional mixing valve in an attenuator-diffuser unit which mixes hot and cold air, supplied from a pair of risers or ducts, and discharges the mixture on an occupied area without changing the volume of air supply or the percentage of fresh air.

Changes of temperature are effected through a dual-duct, high-velocity system of the all-air type without creating sudden shifts in air movement, Anemostat engineers state.

Designed for application as "individual room or area control" in air conditioning systems, the unit is for use in hospitals, hotels, and office buildings, it was pointed out.



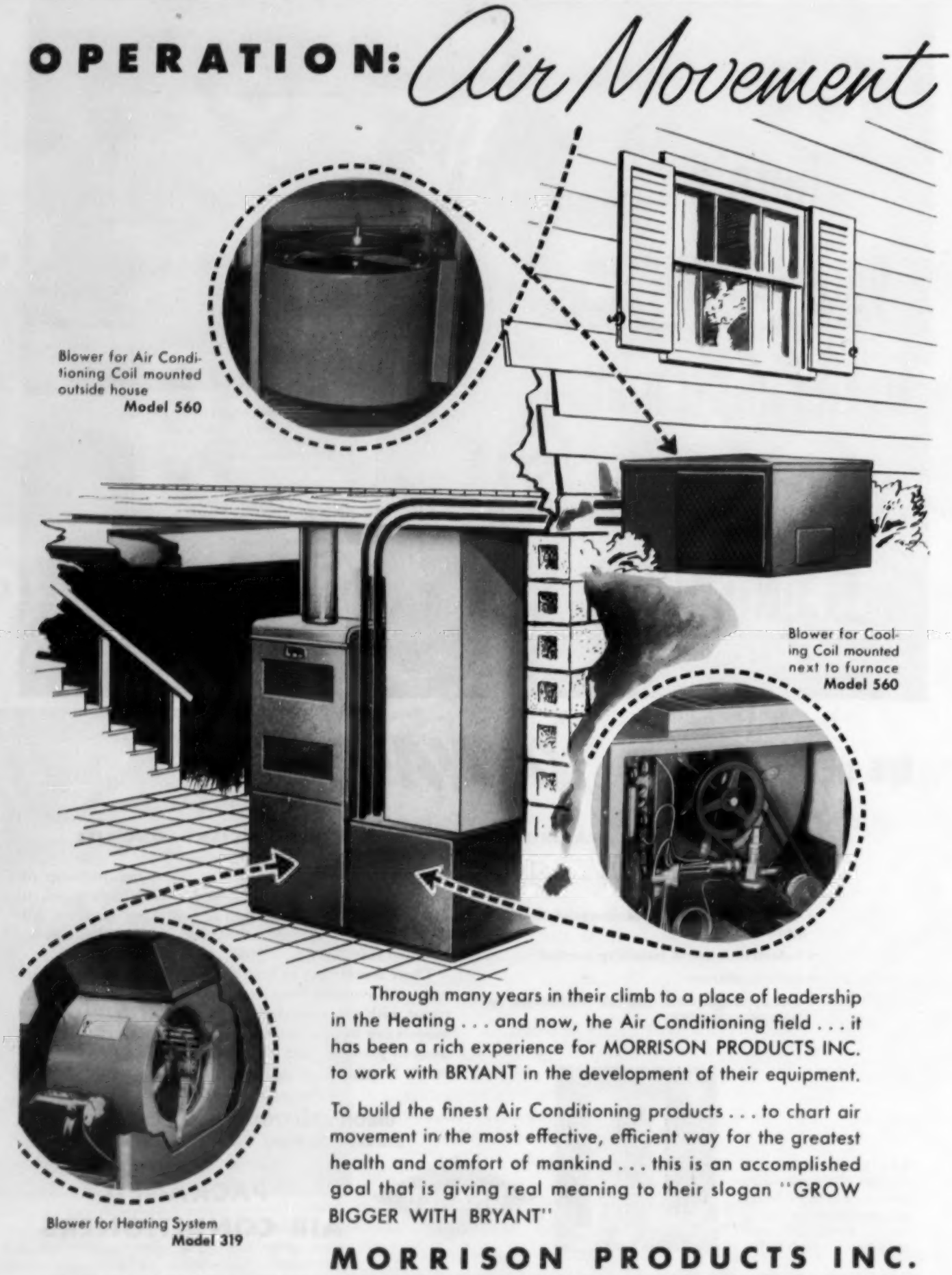
HOT AND COLD DUCTS half open, admitting equal amounts of hot and cold air to the attenuator box. The Anemostat diffuser cones are arranged in such a way that room air is drawn into the diffuser section and mixed with supply air before it is discharged into the conditioned area.

All air is processed at the central unit with no coils present in individual room units or adjustments in the refrigeration equipment. The proportional mixing valve inside the attenuator chamber controls warm and cold air simultaneously, either by manual, or automatic room thermostat control.

Operation of the mixing mechanism in the attenuator box, regardless of the type control used, is based on a compensating linkage which opens and closes hot and cold duct outlets in inverse ratio, Anemostat engineers emphasized.

This holds total air supply constant according to the initial pressure tap setting. The rocker arm design compensates for variations in spacing between linkage components. As the

(Concluded on next page)


OPERATION: Air Movement
Blower for Air Conditioning Coil mounted outside house
Model 560
Blower for Cooling Coil mounted next to furnace
Model 560
Blower for Heating System
Model 319

Through many years in their climb to a place of leadership in the Heating . . . and now, the Air Conditioning field . . . it has been a rich experience for MORRISON PRODUCTS INC. to work with BRYANT in the development of their equipment.

To build the finest Air Conditioning products . . . to chart air movement in the most effective, efficient way for the greatest health and comfort of mankind . . . this is an accomplished goal that is giving real meaning to their slogan "GROW BIGGER WITH BRYANT"

MORRISON PRODUCTS INC.
16816 WATERLOO ROAD • CLEVELAND 10, OHIO

BOTHERED WITH SCALE?

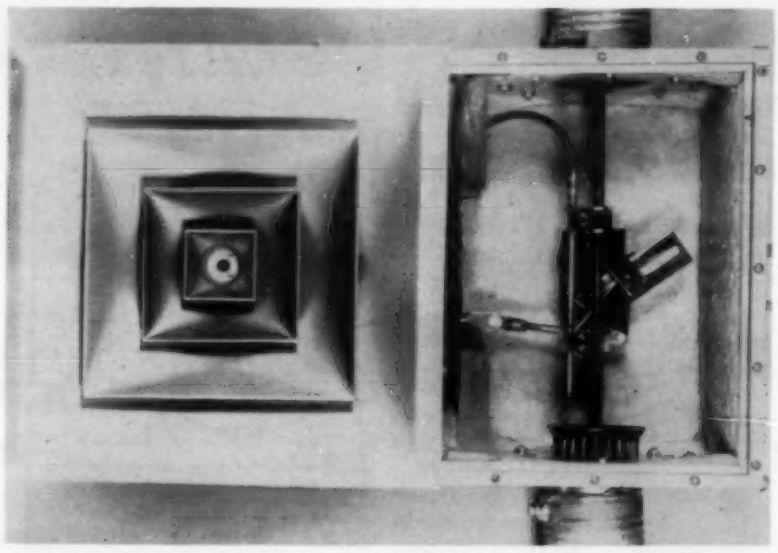
WE RECOMMEND
WC-2100
GYP-SOL
[FOR THE REMOVAL OF CALCIUM SULFATE (gyp-scale)]
AND
WC-210
SCALE-OUT
[FOR THE REMOVAL OF LIME SCALE]

Both Products
GUARANTEED & INSURED!

For further information, contact your local wholesale air conditioning and refrigeration supply house or . . .

WORTH CHEMICAL PRODUCTS CO.
406 E. MAGNOLIA P.O. BOX 366
FT. WORTH, TEXAS
"Our 10th Year"
(Dealerships open in some areas)

For more information about products advertised on this page use Information Center, page 23.



COLD AIR DUCT open, hot air duct closed. Hot air is eliminated from the supply mixture, and cold air only is dicharged into the occupied area. As temperature requirements in the area change, temperature of supply may be raised by partially opening the hot air duct.

Diffuser Unit--

(Concluded from preceding page)

amount of warm air is increased, the explanation went on, the proportion of cold air is decreased by the same amount.

If thermostatic control is used, a modulating needle valve on the thermostat releases compressed air from a low pressure cylinder, actuating a compensating linkage in the attenuator which opens and closes the respective duct outlets.

The engineers further state that in remote-manual control the control is exercised through a connecting cable to the compensating linkage, and in manual control directly at the box.

In the Anemostat diffuser design, arrangement of concentric cones brings room air into the diffuser section where it is mixed with supply air before being ejected into the conditioned area. This increases permissible temperature differential, thus reduces the amount of required air supply and cuts down size of supply ducts, state Anemostat engineers.

Worthington Promotes Cummins In Seattle

HARRISON, N. J. — Charles D. Cummins has been appointed district manager of Worthington Corp.'s Seattle office, according to William A. Meiter, general sales manager.

Since 1949 Cummins has been assistant district manager. In his new capacity he succeeds E. D. Schively who has accepted a special assignment in Worthington's new Canadian operation.

The Seattle district office maintains a branch office at Portland, Ore. headed by Norman E. Wolfe; and a sales operation at Spokane under Harley M. Yake. Cummins joined Worthington in 1925 as a general line salesman at Seattle and in 1949 was appointed assistant district manager of that office.

Schively joined Worthington in 1916, serving in various sales capacities until 1920.

MARSH
Instruments
THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.
PRESSURE GAUGES and Dial Thermometers for all services.
MARSH-ELECTRIMATIC, Water Regulating Valves, Solenoid Valves.
MARSH INSTRUMENT COMPANY
Sales Affiliate of Jas. P. Marsh Corporation
Dept. D., Skokie, Ill.

Nuckols In Waco Adds Worthington Line

WACO, Texas — Addition by Nuckols Air Conditioning Co., Inc. of Worthington line of air conditioning equipment was announced recently by A. R. Nuckols, president.

At the same time, Nuckols, J. W. Harrington, vice president, and Mrs. A. R. Nuckols, treasurer, announced that the firm plans an immediate expansion in services and territory covered. Nuckols added that, concurrently with the expansion, the company's capitalization has been upped to $225,000.

Nuckols Air Conditioning Co., successor to the former Nuckols-Cathey Co., and "the holder of numerous national records in air conditioning sales and installation," amassed total sales exceeding $1,000,000 in 1955.

Hoffmann Is Carrier General Sales Manager For Machinery, Systems

SYRACUSE, N. Y.—Hermann C. Hoffmann has been named general sales manager of Carrier Corp.'s Machinery & Systems Div., it was announced recently by Charles V. Fenn, vice president.

H. Hoffmann

Hoffmann will have general responsibility for sales of large air conditioning and refrigeration equipment. Important markets for this type of apparatus include multi-story office buildings, department stores, hotels, hospitals, apartment houses, industrial plants, and other large structures. He will continue to report to Fenn.

Hoffmann was appointed assistant general sales manager a little more than two years ago. He came from Dallas.

During his nearly 19 years of association with Carrier, Hoffmann has managed offices in Detroit, Houston, and Dallas, and promoted sales of the "Conduit Weathermaster" high velocity induction system throughout the central states area.

General Controls Shifts Babcock to New Orleans

GLENDALE, Calif.—John W. Babcock has been appointed manager of the New Orleans factory branch office of General Controls Co., it was announced by J. F. Ray, the firm's vice president in charge of sales.

Babcock was formerly manager of General Controls' Tulsa branch.

SO HALSTEAD & MITCHELL ENGINEERS SAID:

"LET'S INCREASE FINNED SURFACE HEAT TRANSFER"

Announcing "TURBU-FLO"® *finned surface*

Increase turbulence of air flowing over a surface and heat transfer from that surface is increased. Develop a pattern on the surface which will build turbulence to a maximum *within the allowable pressure drop limits* . . . there you have the latest contribution from Halstead and Mitchell engineers . . . the new, exclusive "TURBU-FLO" finned surface!

"Turbu-Flo" assures you of extra-safe ratings for your manufactured equipment, because added heat transfer provides an unusual margin of *added* capacity.

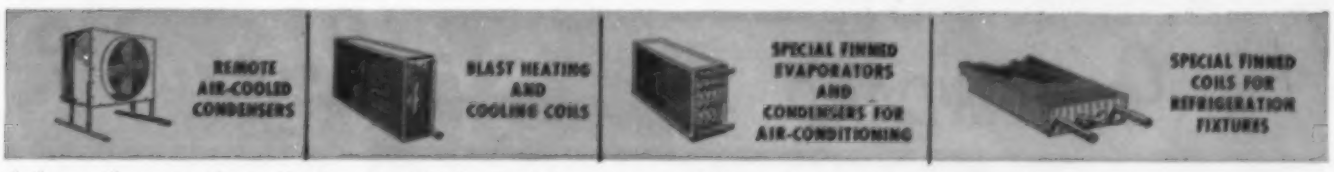
"Turbu-Flo" is manufactured by ultra-modern equipment in our giant Zelienople plant to the exacting quality standards that have made Halstead and Mitchell products distinctive in the air-conditioning and refrigeration industry.

"Turbu-Flo" finned surface is *immediately available* to meet your every need.

Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.

TELL US YOUR NEEDS . . .
AND ASK FOR BULLETIN DE-200

HM
Halstead & Mitchell


REMOTE AIR-COOLED CONDENSERS
BLAST HEATING AND COOLING COILS
SPECIAL FINNED EVAPORATORS AND CONDENSERS FOR AIR-CONDITIONING
SPECIAL FINNED COILS FOR REFRIGERATION FIXTURES

Pollock To Head 1956 Detroit RSES Officers

DETROIT — William Pollock, service manager of Temprite Products Corp., was elected president of the Greater Detroit Chapter. Refrigeration Service Engineers Society, during a recent meeting of the group held at the Detroit branch of Frigidaire Sales Corp.

Allan Christison was elected first vice president; Reo Parent, second vice president; James Carver, secretary; Kenneth Wade, treasurer; and Mel Noble, sergeant-at-arms.

Elected directors were Alex Wilson, Herman Blair, Mickey Wood, Harry McCloskey, Francis Taylor, Ed Squire, Harvey Whitsett, Neil Collins, and Dick Parlin. Mike Sarzynski was named chairman of the educational committee, and Jim Duffy and Ed Squire were elected committee members for 1956.

Following the election, Ralph A. Wilkins, service manager of the Frigidaire Detroit branch, discussed construction, operation, and servicing of Frigidaire automatic ice cube makers. The group then inspected a display of Frigidaire's 1956 air conditioning and refrigeration equipment.

Acme Electric Names Floyd Van Alstyne

CUBA, N. Y. — Floyd Van Alstyne, formerly sales manager of Perma-Flux Corp., has joined Acme Electric Corp. as a sales engineer and will cover the Southern Tier territory of New York state, the company announced.

He will be responsible for providing engineering service to customers using Acme Electric transformers, including buck and boost transformers for air conditioning equipment.

G-E Franchised Stations Get Promotion Program On Motor Service, Repair

SCHENECTADY, N. Y. — A one-year promotional program on motor service and repair has been made available by the General Electric Co. to all franchised G-E small motor service stations.

The stations are franchised to service both in and out-of-warranty General Electric motors in the fractional through 15-hp. range.

The program is designed to aid the motor service stations in familiarizing their customers with the available facilities for service and repair.

Included in the program at no cost are a 12-month mailing supply of unimprinted stuffers and postcard mailers, ad mats for local advertising, logotypes, stickers for letterheads, shop tags, and inside window decal.

Also available at a small charge are 16-gauge porcelainized outdoor signs, and weatherproof truck and window decals.

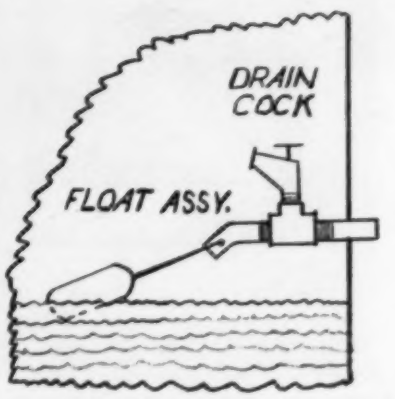
Wells Named by Wolverine Far West Representative

SAN FRANCISCO—Appointment of Ralph C. (Bud) Wells as sales representative has been announced by J. A. Marshall, vice president of Van D. Clothier, Inc., manufacturers' representatives in the far west area for Wolverine Tube, Div. of Calumet & Hecla, Inc.

R. C. Wells

Wells will serve plumbing, heating, and refrigeration wholesalers in northern California.

SLANTS on Service



Drain Cock Simplifies Maintenance on Tower

"It is standard operating procedure with our company to install a boiler drain cock on the inside of a cooling tower immediately before the float assembly in the make-up water connection," reveals Harold Schoendorf, installation engineer with H. L. Murphy Co., Asbury Park, N. J. air conditioning contractor.

"This permits an easy wash down with a minimum of preparation, and also provides a rapid way of filling the tower to its proper level," explains Schoendorf.

"Fittings for this job merely consist of a tee, nipple, and a boiler drain cock, an investment of approximately $2. I find this certainly pays for itself on the first tower maintenance," he declares.

Sales Engineer Speaks To 3 Service Meetings

HARTFORD, Conn. — E. L. Disbrow, sales engineer with Bush Mfg. Co. and Heat-X Inc. was recently guest speaker at three service education meetings conducted in the Midwest.

One meeting, held in conjunction with Dennis Supply Co., Omaha, Neb., covered selection, installation, and servicing Bush water-savers. Also in Omaha, Disbrow discussed Bush low-temperature units with the local Refrigeration Sales Engineers Society.

Selection and installation of low-temperature equipment was his subject at Waterloo, Iowa.

Tenney Appoints Alta In Rocky Mountain Area

UNION, N. J.—Tenney Engineering, Inc. has recently named Alta Engineering Co., Denver, as exclusive sales engineering representative for Tenney environmental equipment in the Rocky Mountain area.

Alta Engineering Co. will service Colorado, Utah, and Wyoming.

YES, ORIGINAL EQUIPMENT STANDARD

REMCO E-Z-SEE LIQUID INDICATOR

Remco's E-Z-SEE Liquid Indicator is specified as *Original Equipment Standard* by fifty-nine manufacturers of automotive, residential, commercial and industrial air conditioning and refrigration equipment.

The E-Z-SEE is *guaranteed leak-proof*, yet is the lowest price liquid indicator on the market. Only Remco gives you your choice of spring-type or low cost hermetically-sealed indicators, in both brass and lower-cost cadmium plated steel.

These double-port, easy-to-see-through units are also available as flow indicators with sensitive flaps which respond instantly to variations in flow.

Remco E-Z-SEE's range in size from ¼-inch through 2⅛-inch O.D., and are available with flare or sweat connectors. Whatever the size or application, E-Z-SEE is standard for *original equipment*.

ATTENTION, WHOLESALERS!

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Refrigeration and Air Conditioning parts and supplies.

Write for current Catalog

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For more information about products advertised on this page use Information Center, page 23.

G. T. Neudeck

F. W. Doyle

Perfex Forms Heat Transfer Division; Names Doyle, Neudeck

MILWAUKEE—I. G. Bohrman, president of Perfex Corp., announces the formation of a new division of the company to primarily develop, sell, and manufacture specialized heat transfer products and other assemblies.

F. W. Doyle, who has served Perfex for the past ten years in the capacity of sales engineer and assistant sales manager, has been appointed sales manager of the new division.

Gene T. Neudeck, formerly with National Water Lift Co., Kalamazoo, Mich., will assume Doyle's duties as assistant sales manager of the Industrial Radiator Div.

Wolverine Appoints Roberts to Position

NEY YORK CITY—Bob L. Roberts has been appointed technical representative in Philadelphia and surrounding areas for Wolverine Tube, Div. of Calumet & Hecla, Inc., it was announced by F. F. Moore, assistant eastern sales manager.

Formerly technical office sales representative in Wolverine's general sales office, Detroit, Roberts will contact petroleum, petro-chemical, and chemical companies plus heat exchanger manufacturers and fabricators.

General Automatic Names 3 In Sales

BALTIMORE—General Automatic Products Corp. recently announced three changes in its sales and service personnel.

Robert I. Wooden was promoted to sales representative covering Pennsylvania.

Don Crawford replaced Wooden here as assistant sales manager.

Casimir Wasco was named sales representative for Illinois.

Revcor Names McCall National Sales Mgr.

CARPENTERSVILLE, Ill.—Robert F. McCall recently was appointed national sales manager of Revcor Co., manufacturer of blower wheels and housings.

McCall was a sales engineer for 12 years with Black and Decker Mfg. Co., worked three years in sales promotion with Barrett Christie Co.

Cool Bookmobile

HOUSTON, Texas—The Harris County Commissioners Court has put up $11,544 for an air conditioned bookmobile. The bookmobile will be the first air conditioned one operated by the county library, which has two others.

RSES Forum Reviews Duct Trends

Insulation Cuts Sound, Heat Loss, Gain, Bars Condensation; Liner Use Growing, Ducts Formed from Insulating Board Due

SAN ANTONIO — Trends in duct insulation were reviewed before the recent RSES educational forum here by Allan W. Cox of Owens-Corning Fiberglas Corp., who presented a paper prepared by W. Scott Haynes of the company.

DUCT LINERS SEEN AS GROWING TREND

Use of duct liners rather than applying insulation on the outside of the duct "is a growing trend," Cox said, and he also called attention to a new development of duct formed from insulating board which is still in "the initial stages," he explained.

"In duct insulation," Cox first pointed out, "there are usually three factors involved. First, we are primarily concerned with reducing heat loss or gain. Second, we want to avoid a condensation problem. Third, we want to reduce sound transmission through the duct.

"Prevention of waste due to duct heat losses or gains reduces the size and cost of heating and cooling equipment," he explained. "While usually we figure a 20% loss in capacity through ducts as permissible, often even this loss is not acceptable in many jobs.

"While duct insulation is chiefly a matter of saving money in first and operating costs of equipment, prevention of condensation on ducts can be an important factor also," he emphasized. "Condensation could rust the ductwork, or it could drip on the furnishings or merchandise in a room."

On the subject of vapor barriers, Cox commented that "a vapor barrier is usually required to prevent condensation within the insulation, which cuts the value of the insulation. A vapor barrier, however, can be omitted under some circumstances.

"Although vapor barriers don't have 0% permeability, this is okay for air conditioning. During the heating season, the insulation will be dried out," he said.

Stating that "duct liners are a growing trend," Cox pointed out that in this case the metal duct itself acts as the vapor barrier. All the openings in the duct must be tightly closed to prevent vapor transmission, he cautioned.

"There is less maintenance on ducts with insulation inside, and sound transmission through such ducts is reduced," he said.

On the other hand, having insulation inside the duct makes cleaning difficult, results in more pressure drop, and makes the installation more expensive, chiefly because more sheet metal must be used for the same duct size, Cox stated.

DUCT FORMED FROM INSULATING BOARD

The new type duct formed of insulation board mentioned by Cox as being under development would have a built-in vapor barrier. The duct would be shipped flat but be scored with v-joints so that it could be folded up into rectangular shape for installation, he said.

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Every water-cooled air conditioning and refrigeration system accumulates scale. And as the scale builds up, efficiency comes down. Power bills go up! Sooner or later you have an equipment failure and major repairs. It can all be avoided easily and cheaply. Simply dissolve ANCO CONDENSER CLEANER in the sump while the system is in operation. In a few hours scale and rust are gone and head pressure is back to normal.

Once the system is clean, keep it that way with ANCO COOLING WATER TREATMENT. It comes in convenient individual cans which are placed in the condenser pan or tower basin where the contents gradually dissolve into the cooling water.

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A complete booklet on the control of scale, rust and algae in refrigeration and air conditioning systems. No service department should be without a copy. It's yours for the asking.

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They'll Do It Every Time

by Jimmy Hatlo

BEWARE OF THOSE PALS WHO JUST DROP IN FOR A MINUTE ···· IT'S ALWAYS WHEN YOU'RE BUSIEST···
FUNGUS, OL' BOY! HOW GOES? I KNOW YOU'RE BUSY, BUT I WAS IN THE BUILDING SO I JUST DROPPED IN TO SAY HELLO···
HI, VERM··
TWO HOURS LATER···HE'S JUST GETTING INTO HIGH GEAR····
DON'T LET ME BOTHER YOU··· GO RIGHT ON WITH YOUR WORK···HEY··D'YA THINK SIX-DAY BIKE RACES WILL EVER COME BACK? WHO'S THE FAT GUY OUT THERE? GUESS WHO I SAW TODAY! ETC·· ETC·· AND ON AND ON····
THANK AND A HAT TIP TO HARRY SPERBER, NEWARK, N.J.
2-23

Air Conditioning Blows Ahead With Another New Use

Possibly the most revolutionary store entrance development since the invention of the lock and key is being erected in Chicago by the Jewel Tea Co. It's a supermarket without doors.

Replacing conventional entrances—frequently operated by an electronic eye (or, most often, merely pushed)—will be an 8 ft. wide, 8 ft. high mass of moving conditioned air. Nothing else.

Wintertime this air curtain will keep warm air in; cold air out. In summer, cooled air will be retained, hot summer discomfort checkmated.

That "curtain" of air conditioning is a Swiss invention. By blowing scientifically measured quantities of controlled air downward through specially shaped nozzles installed above the store entrance, it has the blocking effect of a leaded steel door.

How does it work? Downflowing conditioned air is readmitted into the system through a floor grating. After this action it is cleaned, heated or cooled (according to season), and then moved again through ducts back to the nozzles.

Velocity of the air stream is reported to be no more noticeable than a mild summer night's breeze. Most important, it won't disturb a lady shopper's hairdo!

This "door" of air is filtered to remove dust and dirt, of course. Extraneous objects, like cigarette stubs and chewing gum wrappers, fall into a pit beneath the floor grating. Down there, regularly, they are flushed away.

Curiously, dogs and cats will not pass through this air conditioned "invisible wall" unless carried through by their owners. Flies, mosquitoes, and other insect pests avoid it, also. Only human beings penetrate this air curtain with ease. Amazing!

After the store closes for the night a sliding *solid* door barricades the entrance.

These invisible air conditioned "doors" are immensely popular with supermarkets and department stores in Switzerland, where they have been working satisfactorily and without interruption for more than two years. There's also an installation of this type in Texas, of course.

Score another hit for air conditioning! And another new market!

The Fine Print in The Guaranteed Annual Wage

Detroit auto manufacturers have assumed a limited responsibility for supporting laid-off labor. For that concession they have received an option on renewed flexibility for management to run its own "show."

Eventually, this so-called "trade" may be more significant than the Guaranteed Annual Wage.

Reuther and his CIO admitted the right of management to manage in order to secure their objective—a pass at job stabilization.

Implied, and often overlooked, in these GAW contracts — is relinquishment of "featherbedding" by the UAW.

Possibly this "trade" is the beginning of a new era in industrial relations.

Certainly what has happened at Detroit's bargaining tables emphasized a trend that has been evident since the end of World War II. To wit: a large segment of *American industry is moving closer and closer to a stabilized work force,* and toward sensible management relations (which includes elimination of guaranteed loafing on the job).

Nowadays an hourly worker has paid holidays, paid vacations, pension plans, life and accident insurance. For these extra benefits he should work conscientiously.

At the same time, he recognizes management's prerogatives, thinks Socialists are nuts, and hates Communists.

And his "future" seems so assured that he borrows on it.

That's Progress!

Why must we work so hard? And why does the other fellow have it so easy? The answer is that we don't work very hard, nor does the other fellow. Work is hard in the degree that we mix it with worry, fidgets, irascibility. Most of us, of course, do a good job of mixing them. That's why we think we work so hard.—*Wroe's Writings.*

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AIR CONDITIONING & REFRIGERATION NEWS

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'The Conscience of the Industry'

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EDITOR & PUBLISHER, George F. Taubeneck
EDITORIAL DIRECTOR, Phil B. Redeker
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ASST. GEN. MGR., Warren Jones
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ADVERTISING REPRESENTATIVES: Rex Smith, William Zurkan

ADVERTISING OFFICES:
New York, 521 Fifth Ave. MUrray Hill 7-7158 — Robert M. Price, William Zurkan
Chicago, 134 S. LaSalle St. FRanklin 2-8093 — Allen Schildhammer, Rex Smith
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Bombay, India

Editor:

I have been reading your AIR CONDITIONING & REFRIGERATION NEWS ever since I joined the Munir Fazelbhoy School of Refrigeration and Air Conditioning-Bombay. It is a great boon to the students as well as to the installation engineers. I have joined in the above mentioned school in June 1955 and will finish by the middel of June '56. In my school I am being taught the basic theory and practice of refrigeration and air conditioning engineering, for 12 months, six two-term each containing 5½ months. We work daily eight hours, both practical and theory. We also do engineering drawing.

I am greatly interested in this subjects (refrigeration and air conditioning) and it is my ardent wish to go for higher studies. Unfortunately, in India there is no other institution than mine offering the subject of refrigeration and air conditioning.

Having been greatly fascinated by the hectic progress made by U.S.A. in the refrigeration and air conditioner, it is my sole aim to go over there and learn more. But financially I am not sound to go over to States and study all time. If I would be able to get a job through your good offices and an admission in an Institute, I would be greatly indebted to you. I want a job just sufficient to meet all my expenses during my stay, and I will study in the night classes or on part-time classes.

As I am sure that you can do me this favor as you are a great influential person among the refrigeration and air conditioning businessmen. I once again earnestly request you to help me suitably.

I have enclosed a certificate given by my principal to the Board of Examiners, City and Guilds (London) for me to appear for the refrigeration and air conditioning exam. The certificate is a true copy.

I am very much interested in this line and if I were given an opportunity I would prove my abilities.

RAMAKRISHNA I.,
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Bombay 4, India

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Three-Zone Systems Will Air Condition 16 Ohio Turnpike Plazas 24 Hours Daily

JACKSON, Mich.—More than 700 tons of modern air conditioning will add to the comfort of travelers along the new Ohio Turnpike.

The Ohio Turnpike is a 241-mile stretch of continuous superhighway. Its twin, divided roadways stretch from the Indiana border to Ohio's eastern boundary. Here it connects with the Pennsylvania Turnpike.

The Ohio Turnpike Commission has built 16 modern service plazas at convenient intervals. Here a motorist can relieve the strain of driving long stretches at a time. And he can enjoy a cup of hot coffee or a complete meal. The comfortable lounges also provide the means for just resting up.

To insure complete comfort, in even the hottest weather, these service plazas are air conditioned throughout. Installation of the equipment was supervised by Robert C. Moorhead, chief mechanical engineer for the Toledo firm of Bellman, Gillett & Richards, architect and engineer for the plazas.

Moorhead's plans called for a chilled water central system for air conditioning, coupled with a forced air system of distribution.

"Several factors influenced the selection of the equipment," it was stated. "Being in remote locations where servicemen were not readily available, the equipment had to be fully automatic and trouble free.

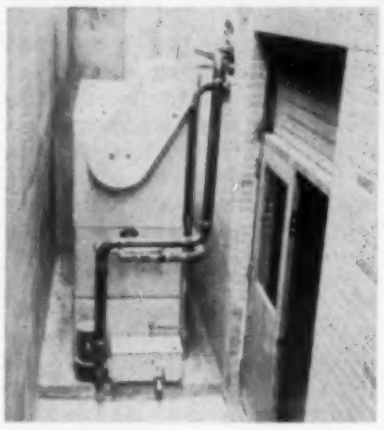
"The equipment would be in service 24 hours a day, seven days a week, so it had to be durable and of proper capacity to provide ample cooling under extreme conditions of summer heat. And it had to be low in maintenance cost to keep the pike's operating expenses as low as possible."

The layout and size of the buildings lent themselves to the use of a zoned system of cooling using three separate zones. The main dining area comprised the first zone, the counter and lobby area was the second zone, and the service station area was the third zone. Each zone has a separate packaged water chiller, a separate air duct system and its own temperature and electrical controls.

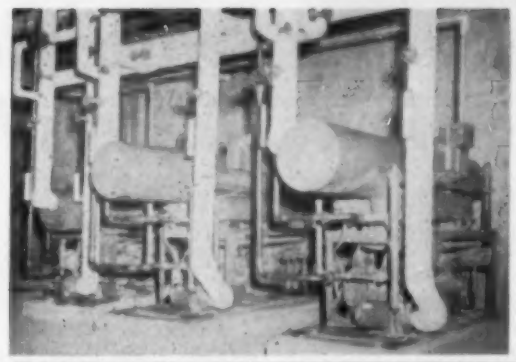
For 14 of the service plazas, Moorhead selected Acme "Flow-Cold" packaged liquid chillers manufactured by Acme Industries, Inc., Jackson, Mich. He used two model RD-15 Flow-Cold units and one model RD-8 in each building. The RD-15 has two 7½-ton compressors and a ¾-hp. pump. The RD-8 has a 7½-hp. compressor and a ½-hp. pump.

Chilled water is pumped through coils of factory built air handling units located in the attic. Air is blown over these coils, through the duct system, and discharged into the service plaza proper through ceiling diffusers.

The dining area and the counter area are handled by two separate squirrel-cage blowers circulating air at a rate of 4,500 c.f.m. The service station area has its own 2,600 c.f.m. blower. A large amount of intake air is required to compensate for the air driven out through the kitchen's exhaust system.



CONSERVATION of water is a must as each Plaza relies solely on wells for its supply. Acme "Flow-Mizer" cooling towers, installed in an outside stairwell at the back of the building, have held make-up water requirements to less than 5%, it is said.



EACH Plaza has three separate zones of air conditioning in "Flow-Cold" design, each with its own packaged water chiller, air duct system, and temperature and electrical controls.

Conservation of water used in the liquid chillers is a definite must, as each plaza relies solely on its own wells for water. For this, Moorhead selected an Acme 35-ton model PACT-35 "Flow-Mizer" cooling tower.

One tower cools the condensing water from all three Flow-Cold liquid chillers. It is installed in an outside stairwell at the back of the building.

"Make-up water requirements have proved to be exceedingly low, running at less than 5% for all three units," it was stated.

The duct system is used only for circulation of chilled air. Heat is furnished by two 60-hp. oil-fired boilers using a forced hot air water system with extended convector finned radiation.

Heating and air conditioning contractors include: T. O. Murphy Co. of Oberlin, Ohio; Kaighin & Hughes, Inc., Toledo; and Commercial Piping Co., Youngstown, Ohio.

ASPIR-JET
SPRAY NOZZLES RAISE TOWER EFFICIENCY

The swirling, atomizing action of the water as it goes through the Aspir-Jet means more effective heat transfer and higher efficiency from any spray-filled cooling tower. Pressure as low as ½ pound gives effective water break-up and distribution. Formed of butyrate plastic, Aspir-Jets will not corrode.

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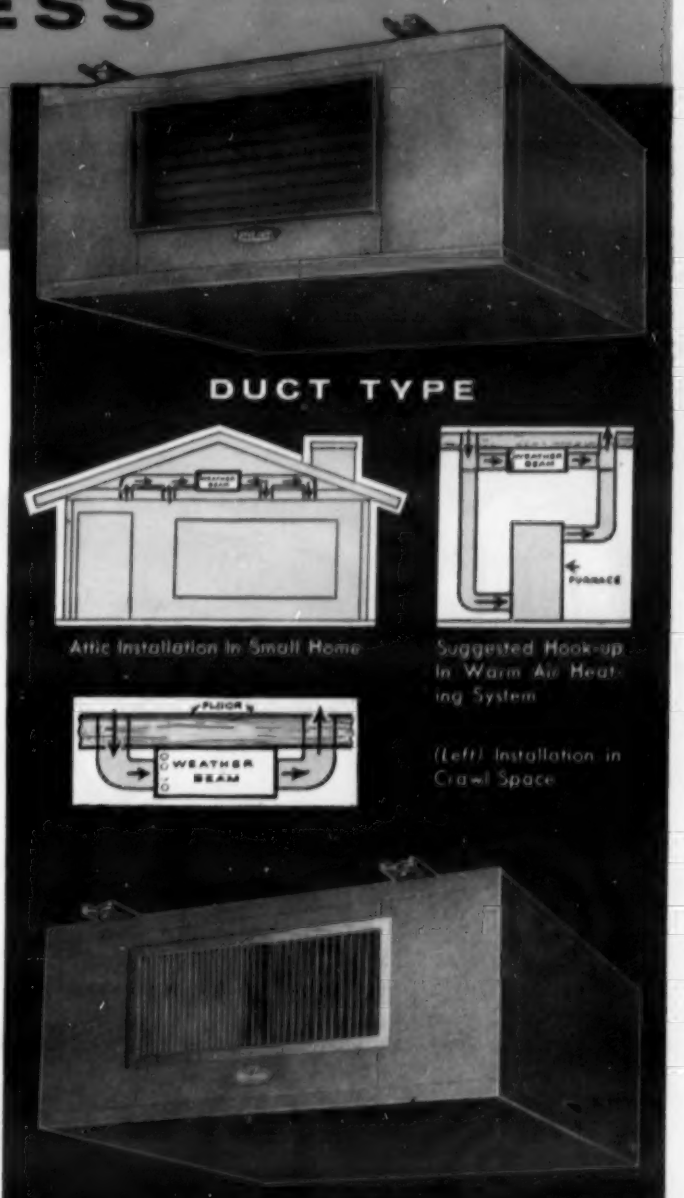
2 AND 3 TON CAPACITIES



DUCT TYPE

Attic Installation in Small Home

Suggested Hook-up in Warm Air Heating System

(Left) Installation in Crawl Space

DUCTLESS TYPE

Ceiling mounted. No waste of floor space. Internal bank of louvers controls air flow vertically and external louver bank controls air flow horizontally. No cold or hot spots in room.

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Freezer Next Major Purchase for Many Farms Uprights Gain Favor, 'Cappers Weekly' Reports

TOPEKA, Kan.—A study conducted by *Capper's Weekly* shows that nearly a third of its subscribers own home freezers, with also 15,000 buying them new in a single 12-month period, and that 26,800 subscribers planned to buy a freezer as their next major purchase.

The chest type freezer is the most prevalent in the rural subscribers' homes, leading the upright type by more than 6 to 1, according to the publication's research department.

"However," it was pointed out, "uprights made a favorable showing in the recent purchases of home food freezers . . . 3 out of 10 subscribers buying home food freezers during the 12-month period bought the upright type."

The average capacity of freezers in subscribers' homes runs 13.9 cu. ft., the study revealed.

"To fully appraise the home food freezer market in the rural audience, consideration must be given those families who are using frozen food facilities other than home food freezers," it was noted.

"For example, there are some 140,000 *Capper's Weekly* subscribers who are renting storage space in a frozen food locker plant, but do not own a home food freezer.

"Inasmuch as these families are already familiar with the advantages of frozen food, it should require very little selling effort to point up the convenience of having a home food freezer of their own.

"In addition to the families who rely solely upon locker plants for frozen food storage facilities, about one out of six subscribers who now have home food freezers rent additional storage space in a locker plant.

"A larger home food freezer for these families would not only mean a savings in time and money, but would eliminate the inconvenience of trying to maintain frozen food in two places."

Besides freezers, the study—"Our Families . . . Their Homes and Equipment" — covered ownership and purchases of other home and automotive equipment ranging from fans to field tractors.

Amana Forms Food Plan Sales Dept. To Help Expand Freezer Market

AMANA, Iowa — Firm belief that successful freezer food plan merchandising will create expanding markets for home freezer sales was emphasized again by Amana Refrigeration, Inc., with the announcement that the freezer manufacturer has established a food plan sales department.

The new department, to be headed by W. J. Dickinson, will assist Amana distributors and dealers in opening new food plans, in developing and expanding present food plans, and in training and educating food plan personnel.

Dickinson, formerly director of the key accounts department, will direct a staff of five zone freezer food plan managers who will work in the field to assist Amana distributors and dealers.

"Food plans, properly merchandised and ethically conducted, represent a substantial volume and profit potential for freezer dealers," said J. A. Rishel, Jr., Amana's general sales manager.

"Food plan merchandising is responsible for the sale of more than 50% of all freezers sold in the United States, at an approximate retail volume of $160,000,000, and for the sale of frozen foods in the first year of freezer ownership valued at more than $200,000,000.

"Amana recently introduced the 'Amana Plan for Better Living,' an encyclopedia of know-how on successful freezer-food plan merchandising, and it will be the new department's responsibility to assist dealers and distributors in implementing this program," Rishel said.

"Although there have been 'growing pain' problems, freezer-food plans have made significant progress in the past 12 months," Rishel added.

"We believe that, with a special department of food plan specialists working with our distributors and dealers, their food plan activities can make even bigger strides in 1956."

Rishel pointed out that the food plan department will support activities of Amana's existing field sales organization.

Amana's new director of food plan sales has been active in the major appliance industry for the past 36 years, on the retail, wholesale, and manufacturing levels.

He was vice president and general sales manager of another manufacturer before joining Amana in 1951 to set up and direct the firm's national sales training program. Last year he became head of Amana's key accounts department.

NFFLI Reports Sale Of 'Western Locker'

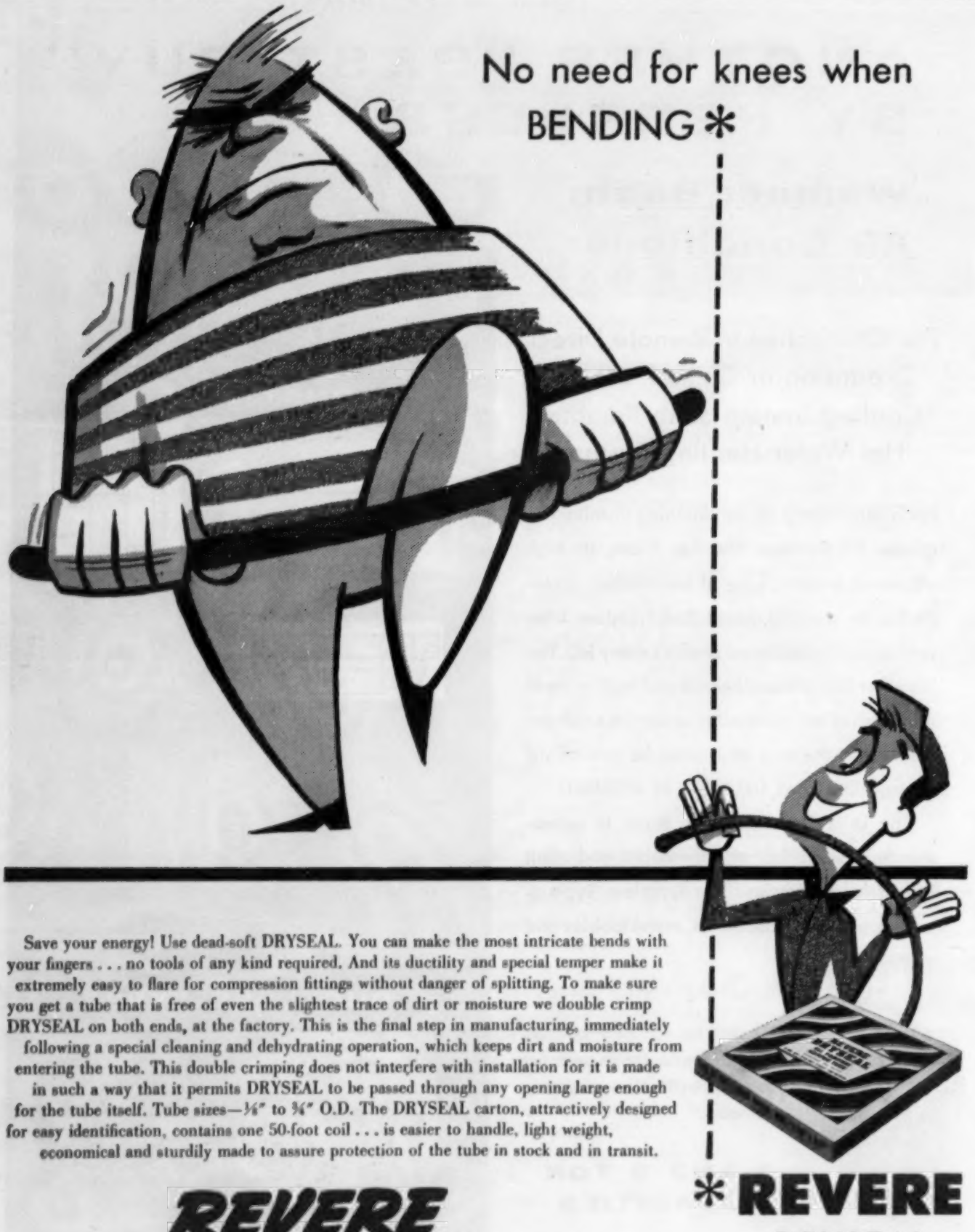
ELIZABETHTOWN, Pa.—The National Frozen Food Locker Institute has announced the sale of *Western Locker Magazine* to Washington Service and Reporting, Washington, D. C.

This firm publishes Market Traders Reports, Preservers Reports, and Quick Frozen Food Market Reports; and serves as reporter of weather, crop, and market anaylses for *Canner and Freezer* magazine.

Washington Service and Reporting has announced that Ann L. FitzSimmonds will act as managing editor of *Western Locker*. Publication began with a combined January-February issue.

L. J. Perry Retires from Frigidaire Field Post

DENVER—Lester L. Perry, commercial sales manager for the Denver district, Frigidaire Sales Corp., retired recently after 30 years' service with the company. He was succeeded by Paul Ellington.



Save your energy! Use dead-soft DRYSEAL. You can make the most intricate bends with your fingers . . . no tools of any kind required. And its ductility and special temper make it extremely easy to flare for compression fittings without danger of splitting. To make sure you get a tube that is free of even the slightest trace of dirt or moisture we double crimp DRYSEAL on both ends, at the factory. This is the final step in manufacturing, immediately following a special cleaning and dehydrating operation, which keeps dirt and moisture from entering the tube. This double crimping does not interfere with installation for it is made in such a way that it permits DRYSEAL to be passed through any opening large enough for the tube itself. Tube sizes—⅛" to ¾" O.D. The DRYSEAL carton, attractively designed for easy identification, contains one 50-foot coil . . . is easier to handle, light weight, economical and sturdily made to assure protection of the tube in stock and in transit.

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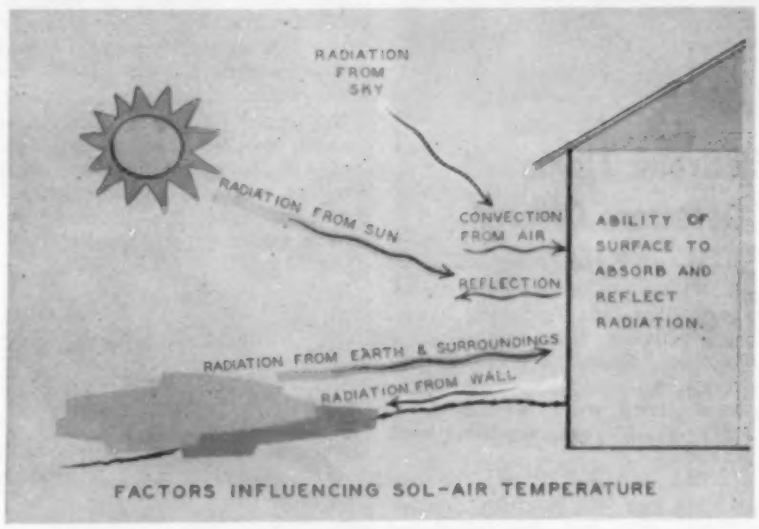
How To Calculate Heat Transfer Through Wall That Has Solar Radiation Load on Outside

E. LANSING, Mich.—How to calculate the heat transfer through a wall that has a solar radiation load on the outside was explained at a conference on forced warm air here recently.

The explanation was made by James Anderson, associate professor of mechanical engineering at Michigan State university.

Finding out how much heat slips through the wall and when the peak load occurs helps average out the total load and avoids sizing air conditioning equipment for the peak refrigeration need, Anderson explained.



FACTORS INFLUENCING SOL-AIR TEMPERATURE

COMBINING ALL THE FACTORS shown in the above diagram gives a fictitious temperature that is used in place of outdoor temperature to calculate the combined heat load on an outside wall.

Many Factors Complicate Load Calculation

Determining this solar radiation load is complicated because it involves so many factors, he said. These factors include radiation from the sun, radiation from the sky, radiation from the earth and surrounding objects and convection from the air. They are offset in part by reflection and radiation from the wall.

The result of all these factors, plus the angle of the sun with the earth, combines into a fictitious figure called "sol-air temperature." It is used in place of outdoor temperature to calculate the combined heat load on the wall.

There is a considerable difference, he noted, for when the ambient air temperature might be 90° F., the radiation sol-air temperature might be 145° F.

The idea of sol air temperature was first introduced back in 1943 by C. O. Mackey and L. T. Wright, Jr., who reported their findings to the American Society of Heating and Ventilating Engineers (now the American Society of Heating and Air Conditioning Engineers).

Sol-Air Does Not Account for Heat Lag

By itself, sol air is not the final answer in calculating cooling loads, Anderson said. It does not account for the heat lag in the wall. In almost all types of walls, heat is not passed through instantaneously. Depending on the insulating capabilities of the materials in the wall, it takes time for the heat to pass through.

Mackey and Wright worked out a rather complicated and time consuming method of combining sol air temperature with thermal lag in 1944. But it was not until 1948 that J. P. Stewart of Carrier Corp. condensed their work into a more simplified "equivalent temperature differential."

'Equivalent Temperature Differential'

This equivalent temperature differential can be multiplied by the ordinary "U" values (the over-all coefficient of heat transfer) of the wall to find the total quantity of heat transferred through it.

The values of equivalent temperature differential were put in table form and may be found in the ASHAE Guide in the chapter on cooling loads. These values are given for various hours of the day, for dark and light walls, for different construction of walls, and for walls facing in eight directions.

To illustrate the effect of thermal lag in walls, Anderson pointed out that a thick, high thermal capacity wall facing west would be subject to high solar radiation in the afternoon, but the heat load on the inside of the wall would be comparatively small.

Heat Might Not Penetrate Wall Until Evening

However, some time after sunset, the afternoon heat would seep through the wall. This would build up the load of heat that the air conditioning equipment would have to remove, even though outdoor temperature may have fallen considerably.

Anderson offered this example of the use of equivalent temperature differential.

A 12-in. concrete wall facing west and painted black in Kansas is exposed to the sun in July. Find the heat gain at 10 p.m. (peak solar radiation load) when outdoor design temperature is 95° F. and indoor temperature is 80° F.

Solution Given In Formula

His solution: The "U" factor for a 12-in. concrete wall is .57. The total equivalent temperature as found in the ASHAE table is 24° F. Multiplying the "U" factor by the total equivalent temperature (.57 × 24) equals 13.7 B.t.u. per sq. ft. per hour total heat transmission through the wall.

In a case like this, Anderson pointed out, the flywheel effect helps to spread out the heat load that the air conditioning equipment must handle and a smaller size piece of equipment can be specified.

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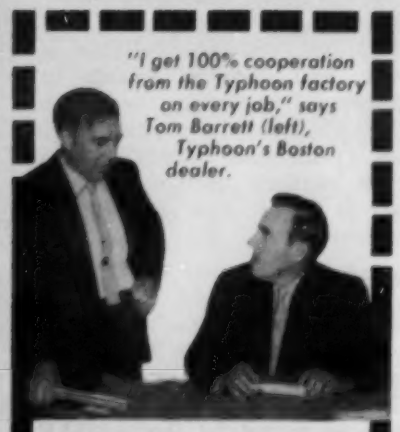

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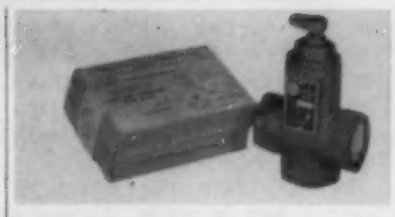


B & G Announces 'Flo-Control' Valve

KEY NO. F-440

MORTON GROVE, Ill.—A new two-way "Flo-Control" valve which is adaptable to either straight or angle installation was announced recently by Bell & Gossett Co. here.

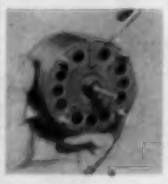
These valves are used to prevent gravity circulation in a forced hot water heating system when the booster pump is not in operation.

They are available in the 1, 1¼, and 1½-in. sizes and replace the individual straight or angle pattern valves of the same size.

Motor Develops 1/250 to 1/15 Hp.

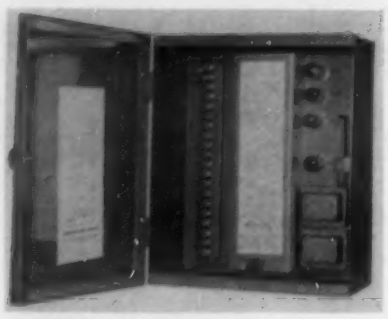
KEY NO. F-441

ANGOLA, Ind.—A new fractional horsepower electric motor for use in air conditioning, refrigeration, heating, ventilating, and appliance fields was announced recently by Redmond Co., Inc. branch here.



"Type AL-4" has rigid construction with both stator core registers machined simultaneously. End frames then provide positive bearing alignment and uniform air gap for quiet operation, the firm claims.

Type AL-4 develops 1/250 to 1/15 hp., has 4-pole design, 1,550 r.p.m., 60 cycles, 115 or 230 volts. Shaft is 5/16 in. in diameter in the compact, UL approved unit which has 14 lead outlets. It is also available in odd voltages and frequencies or in either open ventilated or totally enclosed construction, the company added.



Electronic Flame Detectors Offered

KEY NO. F-442

MINNEAPOLIS — Two flame-safeguard relays featuring sensitive electronic flame detection, a choice of control sequences and timings, and a "safe-start" component check were developed recently by Minneapolis-Honeywell Regulator Co.

R478A and R478B are for use with oil, gas, and dual-fuel burner control. The first has two-flame rectification detection circuits for use with either flame rod or photocell or both. The second relay features a "Flameguard" lead sulphide photocell sensing unit for gas and oil flames.

Available with 5 or 30-second pre-purge timing, 15, 60, or 180-second ignition timing, interrupted or intermittent pilot, and high-firing as main fuel valve opens at the end of the ignition period, models can be obtained with external fuel transfer switch for sequence choice for oil and gas firing, the firm stated.

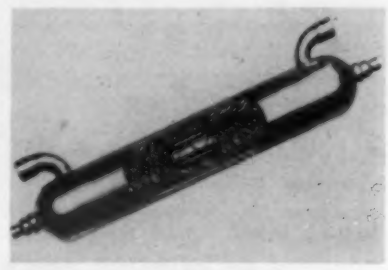
Carnes Adds Corner Discharge Diffuser

KEY NO. F-443

VERONA, Wis.—Carnes Corp. here recently announced addition of model RC diffuser to its current line of commercial, industrial, and residential ceiling diffusers.

Inner cone of model RC may be set to secure four-way, three-way, or two-way corner discharge patterns without disassembly or use of tools, the company states. Inner vanes are slid to position desired. The air inlet may be entered in any ceiling location and diffuser adjusted for suitable air distribution.

The unit comes in two sizes with 6 by 6-in. or 8 by 8-in. sq. neck. It also can be obtained with integral opposed blade damper adjustable from the diffuser face, it was added.



Heatron Capacity Booster Introduced

KEY NO. F-444

YORK, Pa.—The new "Heatron" capacity booster for refrigeration and air conditioning systems makes use of "Thermek" spined tubing on the liquid line, Heatron, Inc. here announced recently.

The inner tube, to which the liquid line is connected, has been machined around and along its outer surface to produce a closely packed array of spines, the company explained. The spines remain attached to the tube and are an integral part of the parent metal.

The booster takes the place of the usual drier loop. By subcooling the liquid, the compressor is made more effective, and the likelihood of excessive flash gas being generated is greatly reduced, the manufacturer claimed.

Shell diameters (outer shell) range from 1⅜ to 2⅛ in., with over-all lengths from 12 to 27 in.

Liquid line connections may be ¼, ⅜, or ½ in.; suction line connections ½, ⅝, ¾, or ⅞ in.

Recold Coil Connects With Home Ductwork

KEY NO. F-445

LOS ANGELES — A compact, new Recold residential air conditioning coil is offered by Refrigeration Engineering, Inc. It is designed for connecting into ductwork of new or existing small systems with a remote condensing unit or water chiller.

Speed and ease of installation are facilitated by a built-in, pitched drain pan; enclosed and insulated compartment for valves; flanges for attaching to ductwork.

The new coil is available in 2, 3, 4, or 5-ton capacity. The 2-ton unit requires only 14½ by 29¾ in. of space, and the 5-ton unit, only 21½ by 39¾ in.

Trane Offers High Tonnage Water Chiller

KEY NO. F-446

LA CROSSE, Wis.—New "Duplex" compressor water chilling units ranging in size from 800 to 1,200 hp. are being announced by The Trane Co. for air conditioning installations demanding high tonnage capacities.

The compressors are located on the same side of a single, large evaporator and condenser.

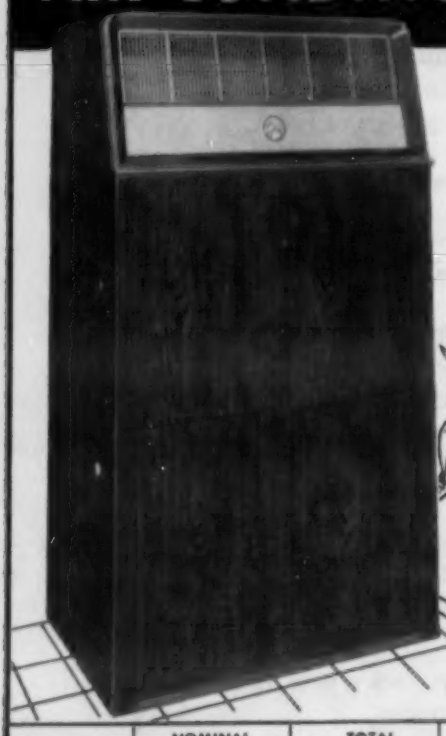
According to a company spokesman, the new duplex units were designed and engineered so that all the features of Trane single-compressor "CenTraVacs" could be retained.

These include capacity control, hermetic operation, minimum noise and freedom from vibration, automatic operation, positive lubrication, gas-cooled motors, and load limit control.

The compressors operate in sequence and can perform singularly or together depending on the refrigeration demand at any specific time.

The fact that the two compressors can operate independently, permits most types of general maintenance to be performed on either, while the other continues to operate, according to the manufacturer.

New compactness in air-cooled AIR CONDITIONER design!



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5 natural wood-grain finishes available on all free-standing models.

Completely automatic, thermostat controlled, air-cooled condenser.

MODEL RO-525A
(with air distribution head)

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FL-2	2 Ton	24,000	900 @ .3 S.P.	30Wx21Dx43H
RO-26	2 Ton	24,000	1000 @ .3 S.P.	30Wx21Dx34H
RO-31	3 Ton	36,000	1200 @ .2 S.P.	30Wx23Dx38H
RO-31 H P	3 Ton	37,700	1400 @ .3 S.P.	30Wx25Dx40H
RO-525 A	5 Ton	65,500	1800-2400 @ .3 S.P.	40Wx26Dx57H

Thermostat has 3 positions: Continuous — Automatic, Fan & Compressor — OFF.

Complete air conditioning for entire home — or equivalent commercial or office area — at the lowest cost in smallest space! GENERAL AIR CONDITIONERS deliver 2, 3 or 5 tons of cooling. All models operate on standard outlet (220 V, single and 3 phase except 2-ton — single phase only).

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For more information about products advertised on this page use Information Center, page 23.

American Blower Adds 20-Ton Unit to Line

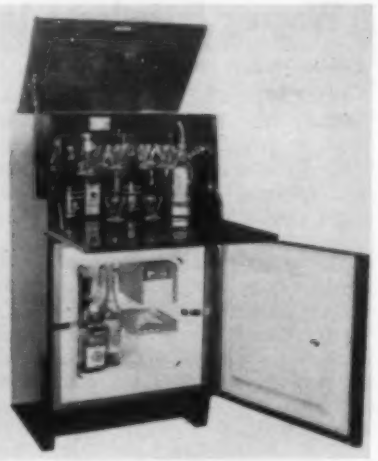
——KEY NO. F-447——

DETROIT—Addition of a 20-ton unit to the company's line of floor type commercial packaged air conditioning units has been announced by American Blower Corp. here.

The new size, designed for use with fully ducted installations, forms a completely self-contained central station type air conditioner in the 20-ton cooling capacity range.

The American Blower packaged line now includes 3, 5, 7½, 10, 15, and 20-ton sizes.

Also announced are new optional current and voltage characteristics for the complete line. In addition to the 208-220-volt, three-phase, 60-cycle arrangement which is still available for all units, 440-volt, three-phase, 60-cycle is now optional for all sizes; and 230-volt, single-phase, 60-cycle can be specified for 3-ton and 5-ton units.



Norco Introduces Refrigerator-Bar

——KEY NO. F-448——

LOS ANGELES — Introduction of the "Clubmaster Coldbar," a combination electric refrigerator and bar built into a "luxuriously styled" cabinet, has been announced by Norman H. Lee, president of Norco Sales Corp. here, recently.

Featuring a 1½-cu. ft. cold storage section with 40-cube ice tray, utility tray, and shelf, the Clubmaster "combines appliance utility with fine furniture beauty," it was stated.

Available in hand-rubbed high-gloss walnut, blond oak, or mahogany set off by antique bronze fittings, the cabinet measures 44¼ in. high, 24 in. wide, and 22 in. deep.

The Clubmaster rides on ball-bearing casters for easy portability. Casters are detachable to permit anchoring down for use on yachts or trailers.

Admiral Built-In Oven Fits 24-In. Cabinet

——KEY NO. F-449——

CHICAGO — Two new built-in custom wall ovens with solid porcelain door panels were announced recently by Admiral Corp.

Door panels are offered in four colors to match kitchen decor and other Admiral appliance colors. Ovens feature "inlaid" control panels with chrome finish and trim, it was explained.

New built-in ovens will fit a cabinet 24 in. wide. Oven racks on shelf glides can be adjusted to eight different positions. Units feature an infrared broiler, porcelain broiler-roaster pan with smokeless grille, and leaf-type stainless steel heat deflector to protect wall and cabinet, the company said.

Dunhill Designs Ice Storage Bin

——KEY NO. F-4410——

BROOKLYN — Dunhill Soda Fountain Corp. announces an ice storage bin with seams and joints that are spot welded and soldered for water-tight construction, it was reported here.

The bin has rounded corners for easy cleaning, the manufacturer continued.

"Two inches of solid vegetable corkboard are used throughout," the company said. "The entire shell is treated with moistureproof adhesive cement to create an air-tight cabinet. To further insure against heat leakage from within, all corkboard is laminated and then treated with the same moistureproof adhesive."

Front, top, and both sides of the exterior of model P-500-3, in addition to the interior, are constructed of 20-gauge stainless steel. Steel members are used for additional rigidity.

Exterior bottom and back are made of 18-gauge cold-rolled steel, hot dipped galvanized, it was stated.

The bin top is reinforced with ⅛-in. angular steel frame to support the ice maker. Legs are 18-gauge stainless steel, it was added.

Approximate capacity is 450 lbs. Dimensions (bin only) are: Width, 48 in.; depth, 29 in.; height is just 36 in.

Information Center

For *more information* on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

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CALGON SCALE REMOVER makes it easy to clean up a system completely. Excellent corrosion inhibitor protects system while in use. Special built-in pH color indicator shows exactly how much of scale remover to use, and tells when system is clean. CALGON SCALE REMOVER provides the safest way to get the system clean.

2. MICROMET* PLATES

Once the system is clean, *keep* it clean by using MICROMET PLATES. A single charge lasts up to six months, and the inexpensive glass mesh feeding bag eliminates costly feeding equipment. You merely hang the bags in the system. MICROMET PLATES are recommended by many equipment manufacturers. If you have algae or slime growth troubles in your cooling tower, kill them with safe, effective, non-corrosive CALGON ALGAECIDE.

See your refrigeration wholesaler for Calgon's Big Three

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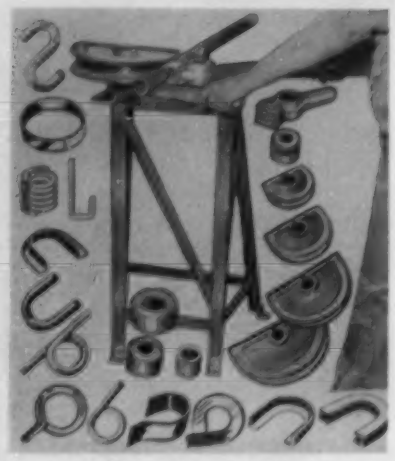
4-In-1 Benders Mount on Truck or Bench



——KEY NO. F-4411——

LOS ANGELES—A new "4-in-1" steel bar, rod, pipe, and tube bender which may be mounted on a truck, workbench, metal stand, or 4-in. or larger vise, was introduced recently by J. B. Sebrell Corp. here.

It bends steel flat bars up to 2½ by ½ in., round and rectangular steel and re-inforcing steel bars to 1 in., steel pipe from ¼ to 1¼ in., and steel, aluminum, and copper tubing to 1⅝ in., the manufacturer claims. Three models are available.

Plastic Dies Bend Tubes To 'Almost Any Shape'

——KEY NO. F-4412——

ROSEVILLE, Mich. — Plastic "TuBend" dies for bending metal tubing into "almost any shape" were announced recently by Warren Plastics & Engineering Co.

Complex forming in multiple planes, including short radius bends, is made possible with the new "stamping" process, according to the manufacturer.

Dies may be used with any conventional stamping or forming press for either high or low production runs, or in hand presses for forming prototypes, it was stated.

Lightweight Office Cooler Cools 2.1 Gals. an Hour

——KEY NO. F-4413——

NEW YORK CITY — Light enough to be carried by one person, a new office-type water cooler is big enough to cool 2.1 gals. of water per hour—enough for 60 office workers, according to the manufacturer, Cordley & Hayes.

Occupying only 1 sq. ft. of floor space, the 36-in.-high bottle-type cooler was designed for use in areas where space is at a premium.

It weighs but 70 lbs., the company noted.

Temperature Meter Has 3 Test Leads

——KEY NO. F-4414——

CHICAGO — A temperature meter which allows simultaneous readings to be taken in three separate areas has been introduced by Simpson Electric Co. here.

The compact instrument, model 385-3L, an adaptation of Simpson's model 385, features three test leads which can be placed in different locations.

A switch allows the operator to get fast, accurate readings on the meter's single dial from each location without moving the leads or the instrument itself, according to J. R. Whiteside, Simpson executive vice president.

In practice, Whiteside explained, one of the leads might be put in a refrigerator's freezer compartment, another in a central position in the box, and the third lead in the box, and the third lead in the bottom area of the refrigerator.

The operator then, by means of the switch, can test the temperature in all three portions of the refrigerator without moving the instrument or the leads, it is pointed out.

Wagner Introduces Line Port Tapping Valves

——KEY NO. F-4415——

LONG ISLAND CITY, N. Y.—A recent introduction by Wagner Tool & Supply Corp. here is the "Big Four Family" precision line port tapping valves with multiple point sealing, the company announced.

"Line-tap" valve is a small hermetic valve designed to pierce tubing without crimping or distortion, the firm claims. It provides a port for charging, discharging, or testing, but will not discharge refrigerant in piercing, it was declared.

Used in conjunction with Watsco Control Valve Part No. CV-1, this valve conforms to tubing, will not leak under vibration, and eliminates top heavy assembly, the company said.

"Line-Port" valve provides a port for sealed units when necessary to cut the line to be tapped. Addition of T-S connection allows a variety of installations with one end flared, another soldered, or both ends flared or soldered, the manufacturer stated.

Watsco "Can-Tap" valve screws on to Charg-A-Can refrigerant disposable containers. The valve stem needle pierces the can seal and operates as a regular valve permitting removal of the refrigerant, according to the firm. It has no protruding parts when closed, can easily be shut off and sealed, it was reported.

"Control" valve is the final member of Big Four Family. It is designed for use with any of the other three valves, is quick coupled without wrenches, the manufacturer said.

Gas, Oil-Fired Winter Conditioner Offered

——KEY NO. F-4416——

KALAMAZOO, Mich.—Both gas and oil-fired "Econo-Midget" winter air conditioners are available from Kalamazoo Furnace and Appliance Mfg. Co., according to the manufacturer.

Gas-fired unit is designated GFL-75 and has a bonnet rating of 75,000 B.t.u. Model OFL-82 is the oil-fired unit with a bonnet rating of 84,000 B.t.u.

Designed for small homes, Econo-Midget is claimed to occupy floor space of 25 by 41 in.

Most Compact OF ALL CHILLERS

HEAT-X 'CH' UNITS

Architect
Louis C. Hinckley
General Contractor
E. J. Pinney Co.
Air Conditioning Contractor
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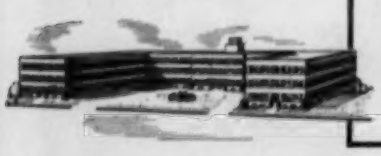


64 SQUARE FEET for 120 Tons of COOLING

ENTIRE chilling plant for the 120 Ton air conditioning system at the new Medical Center, Springfield, Mass. occupies only 8' x 8' of floor space. In that area are 4 thirty ton Heat-X Inner-Fin Chillers, 4 thirty ton Heat-X Inner-Fin heat interchangers and 2 sixty ton compressors.

Such spectacular savings in valuable space are possible *only* with HEAT-X Chillers. Inner-Fin, patented Heat-X design feature, makes these units the most compact shell and tube chillers on the market.

Water passages of Heat-X Chillers are of non-ferrous construction throughout, eliminating any corrosion problems. Since they are single pass, there is no oil trapping problem.

Request Bulletin #1037 for complete information on 'CH' Chillers, available in capacities from 2 to 90 tons.

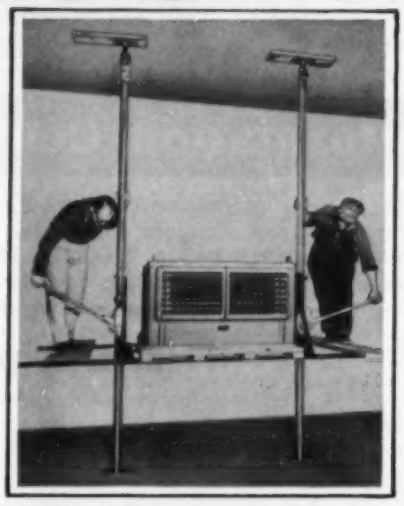
HEAT-X, Inc.
BREWSTER • NEW YORK

HERE IS A BIG MONEY SAVER
The New Low Cost
Portable
Hastings "HOIST-IT"

2 MEN
Can Easily and
Safely Raise
200 to 4,000 Lbs.
Up to 18 Feet
In One Hour

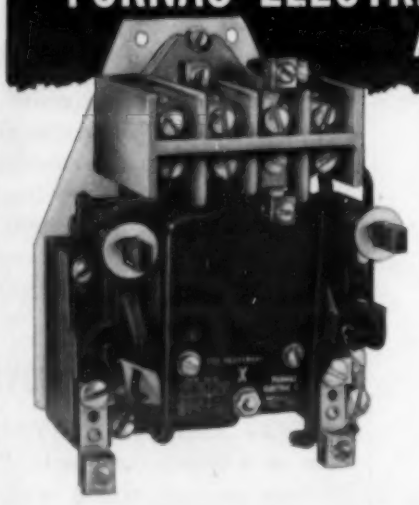
★ ★ ★

Ideal for
All Types of
Equipment



Write for Information and Price
HASTINGS AIR CONTROL, Inc.
3215 Leavenworth St.
OMAHA, NEBR. DEPT. AC-4

FURNAS ELECTRIC CONTROLS do the best job for AIR CONDITIONING and REFRIGERATION



MAGNETIC CONTROLS FOR HERMETIC UNITS

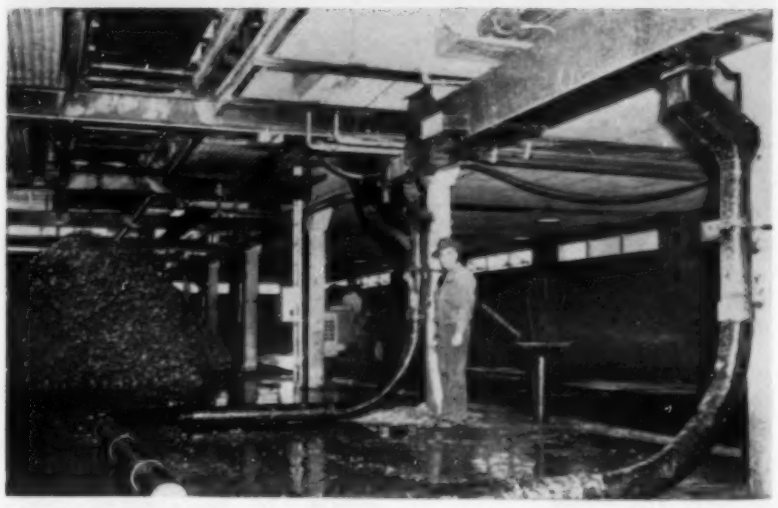
As original and replacement controls for air conditioning and refrigeration units, these compact magnetic controls are available in ratings of 20, 30, 35 and 50 amperes sizes and are listed as standard by Underwriters' Laboratories. Also available is a complete line of magnetic control for open type compressor units for applications through 200 hp.

Write today for Air Conditioning Bulletin 5410,
1111 McKee Street, Batavia, Illinois.

FURNAS ELECTRIC COMPANY
BATAVIA, ILLINOIS
SALES REPRESENTATIVES IN ALL PRINCIPAL CITIES

For more information about products advertised on this page use Information Center, page 23.

2 Special Ceiling Units Condition Oysters While They Await Shucking



VIEW OF the storage room where oysters are stored overnight at J. H. Miles and Co. in Norfolk, Va. Two specially-designed Marlo ceiling type air conditioning units supply cooling to keep the bivalves fresh until next day's shucking. This is believed to be the first air conditioning application of its kind.

NORFOLK, Va. — An unusual air conditioning application—believed to be the first of its kind anywhere — permits oysters at the J. H. Miles and Co. plant here, to lounge in cool comfort while awaiting shucking.

Previously, the oysters were stored on ice overnight, still in their shells, until they could be shucked and packed the following day. This cooling method has now been replaced by an air conditioning system.

As they are unloaded from the oyster boats, the bivalves are piled over perforated pipes on the storage room floor. Cold air is forced through the pipes and permeates the piles of oysters, keeping them cool and fresh until the next day's shucking. Cold air is also supplied into the space through grilles.

Two specially-designed Marlo ceiling type air conditioning units supply the cooling. Each unit has an air volume of 4,000 c.f.m. at 4 in. external static pressure. The units are arranged with stainless steel shaft and hot dipped galvanized casing, with 1 in. of waterproof insulation.

Baker & Co., Norfolk, was the air conditioning contractor on the project.

N.Y. Coliseum and Its Garage Use Bubbler-Type Drinking Water Coolers

NEW YORK CITY—Cordley & Hayes drinking water coolers are being used throughout New York City's new Coliseum on Columbus Circle, the manufacturer announced recently.

Cordley bubbler-type units are being installed in strategic positions throughout the 301,000 net sq. ft. of exhibition floor space. In addition, water-cooled, explosion-proof models are being installed in the two-level garage.

Astrove Plumbing & Heating Co. of Long Island City is making the installation.

The coolers are standard production models with stainless steel tops and sealed refrigeration systems using "Freon-12." The coolers are designed to operate on 120-volt, 60-cycle, single-phase current.

Firm To Condition 12 Floors of Bldg.

NEW YORK CITY — Daniel R. Ackerman, chairman of the board of the Great American Insurance Co., announced that a contract had been awarded to Turner Construction Co. for the air conditioning and alteration work at 99 John St. here.

After completion of the air conditioning and the necessary alterations to adapt it for their use, it will become the home office building of the Great American Group.

The scope of the contract provides for complete air conditioning of the lower 12 floors of this 25-story building, with provision of chilled water lines for the balance of the building.

The fourth floor will be remodeled to provide a cafeteria and kitchen capable of serving 1,000 employes.

"A CASE OF COOL JUDGMENT"

FLO-COLD DRINKMASTER

STAINLESS STEEL CUBER — COOLER.

SOLD THRU DEALERS ONLY

WRITE

United Friguator Engrs.

MENOMINEE, MICH.

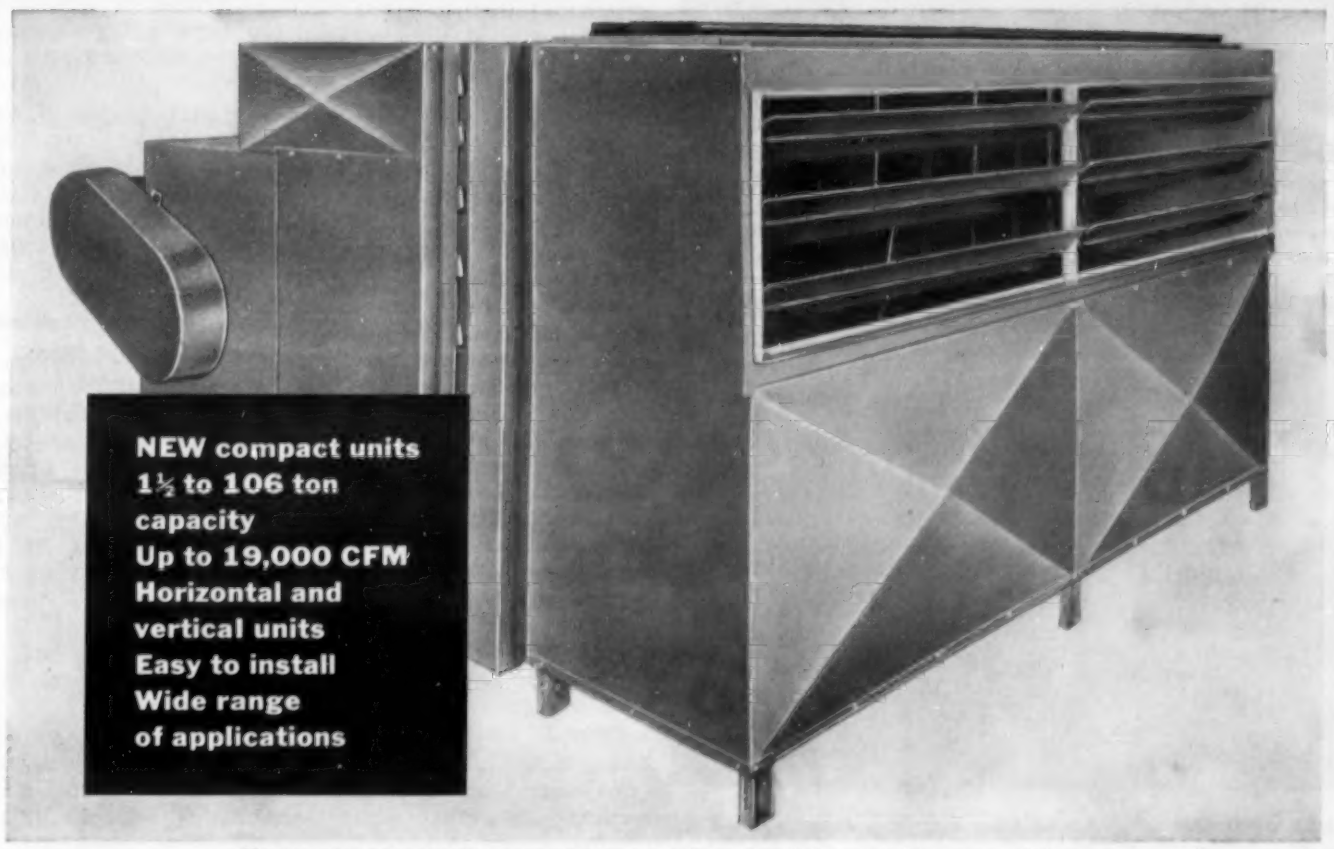
AVAILABLE IN SIZES 4 to 10 FT.

Sales Manager

Presently employed by manufacturer of Air Conditioning & Heating Equipment with distribution on a National basis is contemplating a change. 44 years old, married, University graduate. Thorough knowledge of Markets and potentials. Proven record of accomplishment in building field sales and distribution organization and ability to handle and get along with people. Write

BOX A5514, AIR CONDITIONING & REFRIGERATION NEWS

The most ADAPTABLE AIR CONDITIONER ever offered



Horizontal construction permits suspension of unit from platform or ceiling. Shown here is large-sized unit with damper section.

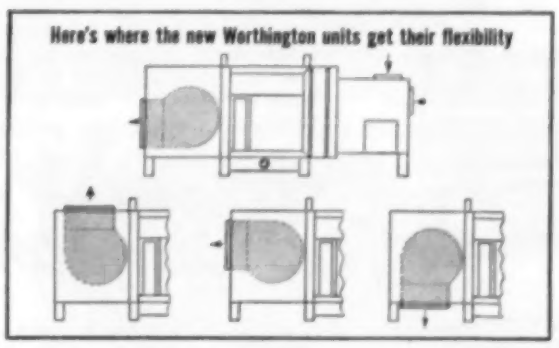
New Worthington units save you space, time and money

Extreme FLEXIBILITY of the new line of Worthington air conditioners permits you to install them as you wish, where you wish—saving you valuable space, time and installation costs.

Designed to work with a central refrigeration system these new units fit your exact requirements—from large plants and offices to small stores and shops.

The fan section may be mounted with front, top or rear discharge—as shown in the diagram below. The motor can be mounted on the top, front, back or at either end.

Here's where the new Worthington units get their flexibility



Here's maximum adaptability in every installation!

Standard unit consists of base section, fan section and coil section—all constructed of rugged, fabricated steel that is Bonderized and coated with a corrosion resistant enamel. For more facts on this new line write Worthington Air Conditioning, Sec. A6105, Harrison, N. J.

A-6-105

- exclusive 3½" motor base adjustment for true belt tension
- up to 81 coil combinations
- quiet, dynamically balanced fans
- accessories interchangeable between horizontal and vertical units
- accessibility—easily removed fan section and panels simplify inspection

WORTHINGTON

CLIMATE ENGINEERS TO INDUSTRY, BUSINESS AND THE HOME

SOME OF THE TOP EXECUTIVES in the commercial refrigerator field, in the annual plant tour and production conference sponsored by the Commercial Refrigerator Manufacturers Association, watch assembly of a meat merchandising case in the new Koch plant, with C. K. Litman, Koch president (far right, facing camera), acting as guide. L. to r. are J. H. Coolidge, Sherer-Gillett Co.; H. A. Stewart, C. V. Hill & Co.; W. J. Stelpflug, Hussmann Refrigerator Co.; R. L. Harrison, Friedrich Refrigerators; George Hamilton, Whirlpool-Seeger; J. W. Krall, McCray Refrigerator Co.; E. N. Northey, Herrick Refrigerators; Fred Weber, Weber Showcase & Fixture Co.

PROTECTIVE SHEATHING for a stainless steel reach-in on production line is noted by this group in CRMA plant tour which includes John Crimmins, Tyler Refrigerator Co. (back to camera); S. D. Vander Weg, Tyler; Fred Haines, Koch; W. T. McCall, McCall Refrigerator Corp.; Joe Wilson and V. Thill, Weber Showcase & Fixture Co.; George Bently, McCray Refrigerator Co.; and Delano Kendall, Herrick Refrigerator Co.

GUN WELDING OPERATION on a channel brace gets an audience that includes H. H. Strang, Sherer-Gillett Co.; F. E. Fields, C. L. Percival Corp.; S. G. Bell, Federal Refrigerator Co.; E. B. Ahrens, C. Schmidt Co.; C. V. Hill, Jr., C. V. Hill & Co.; J. R. Caulk, Jr., Hussmann Refrigerator Co.; J. A. Brinkoeter, Friedrich Refrigerators, Inc.

Inventory Controls, Purchasing Plans, CRMA Production Conference Topics

KANSAS CITY, Kan.—Some concern over present inventories of finished or semi-finished goods, and a lively debate over inventory control and purchasing methods to keep inventories at proper levels, marked the annual plant tour and production conference of the Commercial Refrigerator Manufacturers Association.

Koch Refrigerators, Inc. was host this year for this unique industry affair. A tour of the new Koch plant in Kansas City (Kans.) was followed by the production conference, attended by top executive personnel, as well as those involved in engineering and production activities.

The 'Why' of Inventory

The increase in inventories, it was generally agreed, has been brought about by over-optimistic predictions of the sales department (and a resulting fear of purchasing departments, that they won't have enough materials and components to meet demand) plus the "scare" stories on steel that have led to buying often considerably in excess of needs to meet even the most optimistic predictions. Thus, a "double pressure" is being exerted to raise inventories of both finished goods and materials.

In an ensuing debate over purchasing philosophies and methods, the principal point of contention was over the concept of setting up production runs on the basis of sales department predictions, with the purchasing department providing enough lead time to meet the production demands, or, purchasing on the basis of "maximums and minimums" to meet anticipated production for a three or four-month period.

Argument advanced for the "maximum and minimums" methods is that while the original order may be for the maximum, there is no need to re-order until inventories are down to the set minimums, in addition to which there can be a re-assessment of the situation every 30 days to revise some of the orders.

But those questioning the method asked what is to be done if the minimums prove to be too little, and the purchasing department is faced with the problem of re-ordering in time to provide sufficient lead time.

Purchasing methods, it was pointed out, may also have to be varied according to the item—steel, lumber, and glass being one thing, and such components as screws or expansion valves probably being purchased under a somewhat different concept of purchasing.

Manufacturers of commercial refrigerators are apparently meeting production problems in connection with the use of color in their products, which has grown tremendously in the past couple of years.

Solving Color Problems

Sam Vanderweg, head of operations for Tyler Refrigerator Corp., states that his firm has met the situation by finishing up a product on which color is specified after the order is received, this being speeded by having a stock of fabricated color parts on hand. Production set-ups have also been worked out which permit the matching of porcelain and ordinary enamel finished panels, if colors are standard.

It is necessary to keep the purchasers on standard colors, Vanderweg stated, in order to obtain the kind of production efficiency desirable in color work.

In a discussion of methods that might be used to reduce a too-high burden, the suggestion was made to establish a standard system of jobs by departments, to be checked every month with the foremen, with revisions to be made by an experience pattern.

(Concluded on next page)

CONSTRUCTION FOR SLIDING SERVICE DOORS on front of Koch double-duty display case is described by Clarence Masters (center, with paper in hand) for R. Weber, Weber Co.; E. N. Northey, Jr., Herrick; Ronald Rice, McCray; R. L. Tyler, Jr., Tyler Co.; R. D. Jacobs, Warren; and John Morrison, Whirlpool-Seeger.

It's the talk of the trade...

a potential customer at every stop

ICE BOY

MODEL LC-25

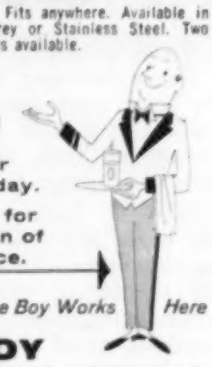
Cash in on these BIG selling features:

- Dial-a-size Control
- King Size Ice Tips
- Sanitary — ice tips washed while made
- Low Maintenance Cost

Best of all, you sell the Ice Boy to every type of outlet; bars, restaurants, cafeterias, florists, groceries, etc.

ICE BOY
MODEL LC-25

Compact. Fits anywhere. Available in Avalon Grey or Stainless Steel. Two other sizes available.



ICE BOY
by Lipman Division of Yates-American

Tear out and mail today

Yates-American Machine Co. LI-502
Dept. O, 763 Fourth Street
Beloit, Wisconsin

Gentlemen: I'm interested. Please send me specification sheets and literature describing the complete Ice Boy line.

Name_____
Title_____
Company_____
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City_____ Zone____ State_____

More Profits with **Warren** SUPER MERCHANDISERS . . .
all one height for every department!

Holds 72 qts. milk or 49 doz. eggs per lineal ft. of bottom deck. Gives a 20% refrigerated cube advantage. Two refrigerated decks adjustable for heavy or light loads, plus nonrefrigerated deck. 8 or 11 ft. long.

island merchandiser

On wheels for top mobility . . . just plug in for quick changes and quick sales. THERMOPANE display guards, stainless trim, ⅓ HP unit. 32" with no strain. . . a top performer . . . a top profit maker always.

39¼" shopping rail for maximum cube and full-width reach. Low 41" rear height . . . rear rail 5" wide to serve as platter rest. With or without numerous canopy styles.

Warren Refrigerators

P.O. BOX 1436, ATLANTA 1, GA.

For more information about products advertised on this page use Information Center, page 23.

(ABOVE) PRODUCTION LINE METHODS on a Koch 70-cu. ft. reach-in refrigerator are outlined by Harold Kain (back to camera) Koch executive, for L. W. Bower, Sherer-Gillett Co.; W. R. Clouse, McCray Refrigerator Co.; Earl Barton, The Warren Co., Inc.; J. Haynes, Weber Showcase & Fixture Co.; A. B. Biddle, Hussmann Refrigerator Co.; G. N. Mayhew, Tyler Refrigerator Co.; Mark Allen, Weber; and V. H. Steg, C. V. Hill & Co.

CRMA Conference--

(Concluded from preceding page)

In the matter of foreman training, the production men discussed the matter of transmission of cost data to the foreman level. Chet Litman, Koch president, said that in their practice "hours used" information instead of complete cost data is passed on to the foreman.

CRMA 'Check List' Reviewed

There was also a review of the "CRMA Check List" of fringe benefits and labor overcosts. This survey of such information among association members has attracted wide attention. Purpose is to find out what such costs amount to per each hour per each employe, and to develop a formula to determine the collateral increase on each increase in wage hour costs.

In an evaluation of the tour through the new Koch plant, production executives from other companies praised the one-floor layout with its unbroken areas that permit complete directional flow of materials, and the efficient storage of both materials and semi-finished products, making possible low inventories of completely finished products.

High-Window Type Construction Debated

The high-window type of construction drew praise because of the added wall and production floor space it made possible, but also raised the question of employe reaction. Koch officials stated that there had been no adverse employe reaction, as plenty of light and ventilation was provided. Keeping loading dock doors open plus the large open areas in the production bays helped with the ventilation problem, it was stated.

The triple-decking storage of semi-completed units, including some large display case models, drew favorable comment. These storage tiers, of metal construction, have roller bases for easy handling. Glass for use in the commercial refrigerators is stored on portable wood racks, which are moved directly to the production area, so that no intermediate handling is required.

General Controls Names Hurd

GLENDALE, Calif.—John B. Hurd has been named field representative for the Columbus factory branch of General Controls Co., according to J. F. Ray, the firm's vice president in charge of sales.

Bulman Forms New Store Equipment Div. With Folger as Head

GRAND RAPIDS, Mich.—To provide for continued growth, the store equipment division and the paper cutter division of the Bulman Corp. will be made into separate corporations in June of this year, E. O. Bulman, chairman of the board announced recently.

Each will have its own buildings and be under separate management.

Bulman said that the firm has just completed a $262,000 expansion program that has increased production facilities by 50%.

Irving C. Folger has been appointed executive vice president of the store equipment division which will be known as The Bulman Corp., according to the firm's announcement.

Gordon To Receive HPACCNA Award for Distinguished Service

NEW YORK CITY—Peter B. Gordon will be the recipient of the Distinguished Service Award for 1956—a citation given each year by the Heating, Piping & Air Conditioning Contractors National Association to the member who has contributed long and lasting service to the mechanical contracting industry.

A vice president of the mechanical contracting firm of Wolff & Munier, Inc., New York City, Gordon will receive the award during the 67th annual convention of the HPACCNA (The Mechanical Contractors Association of America) to be held May 15-18 at Louisville's Brown hotel.

The award-winner has served as chairman of the association's Radiant Panel Heating Committee since its inception in 1946, and has also headed the Committee on Standards since 1953, after some 10 years' service on this body.

In addition he was chairman of the Research Committee during 1955 and a member of the Home Heating Committee from 1943 through 1949. It was under Gordon's direction that material on both Radiant Panel Heating Standards and Snow Melting was developed.

Turner Construction Gets Office Building Contract

NEW YORK CITY — Turner Construction Co. announces that it has been awarded a contract for installation of air conditioning equipment and various alterations to the office building at 15 Broad St.

Principal structural change will be a cooling tower installation at the top of the building.

MR. DEALER...
order 1 or 100 at maximum discount

KOCH direct-to-you sales means you pocket all the profit

A Sales program designed for You. No quotas, no carload inducements. Buy one or a hundred... at the same maximum discount. Earn ALL the profits yourself on competitively priced Koch quality units. Buy at the lowest discount... and pocket the direct-to-you savings.

FEATURES OF THE ALL-NEW KOCH '56 LINE

- 3 to 15 horsepower models...
  In 3, 5, 7½, 10, 15 horsepower matched units
- Housings smaller, performance bigger...
  In new copper mist enamel finish
- Cools, heats, dehumidifies, ventilates...
  Available in single or 3 phase alternates
- Water or Air Cooled installations
  Full line of cooling towers or air cooled condensers

WRITE, WIRE or PHONE FOR COMPLETE DETAILS

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(address)

(city and state)

KOCH Refrigerators, Inc., 401 Funston Road
MAyfair 1-1800 • Kansas City 15, Kansas

KOCH refrigerators, inc.
KANSAS CITY 15, KANSAS

For more information about products advertised on this page use Information Center, page 23.

Frigidaire Triples Engineering Facilities For Developing Air Conditioning Equipment

DAYTON—Three-fold expansion of Frigidaire's air conditioning engineering department, including solar research facilities for home heating and cooling, has been announced by Mason M. Roberts, General Motors vice president and head of Frigidaire.

At the same time, Roberts predicted that industry retail sales of residential central system air conditioners will triple by 1965.

He emphasized that the huge new engineering facility will make possible a series of dynamic forward strides in Frigidaire's program to develop new and advanced air conditioning products for the booming residential market—in both new construction and home modernization fields.

Facility Provides 28 Test Rooms

J. L. Gibson, the division's chief engineer, pointed out that floor space of the Frigidaire air conditioning department has been increased to 42,000 sq. ft.

The facility has 28 test rooms for various types of air conditioning equipment making up residential and commercial product lines.

"Air conditioners are subjected to all types of 'man-made' weather tests in these rooms," it was noted. "Temperatures vary from an arctic zero to a tropical 120°. There is even a test room where a driving rain storm can be simulated.

"The 'weather' for these tests is produced by heating and cooling equipment located in a penthouse overhead. Cooling capacity of this refrigeration equipment is sufficient to air condition more than 125 five-room homes.

Modern Model Shop

"In addition, a modern model shop is maintained. This facility has complete metal fabrication, machine tool, painting and welding equipment, and an assembly area. Here, experimental models of equipment ranging from tiny dehumidifiers to large air conditioners can be built for research and test purposes.

"A six-room Research House has been erected near the engineering facility. Heating and cooling tests are under way constantly in this residence, along with solar research which someday may lead to sun-operated air conditioning equipment for the home.

"Solar experiments deal with the collection of heat from the sun's rays and storage of this heat for later use to help warm the home. Another objective of Frigidaire research engineers is to find a way to use the energy from the sun to cool the house of the future.

"The Research House also is equipped with a wide array of instruments and devices for testing any type air conditioning and heating equipment. This activity is supplemented by another research facility where advanced models are developed and tested before installation in the Research House.

Wind Tunnel for Testing Auto Air Conditioning

"There is a separate structure housing a wind tunnel for engineering tests of automobile air conditioning equipment. Around-the-world summer weather conditions can be produced in the wind tunnel in minutes by flipping a few switches.

"Air conditioned cars operate on a two-roller dynamometer and can be 'driven' for hours in any summer temperature with winds simulating speed of a car moving down the highway as fast as 60 miles per hour. An overhead battery of infrared heat lamps throw heat directly over the surface of the auto, simulating the devastating rays of the hot summer sun. Test facilities for household furnaces are located in another wing of the building housing the wind tunnel.

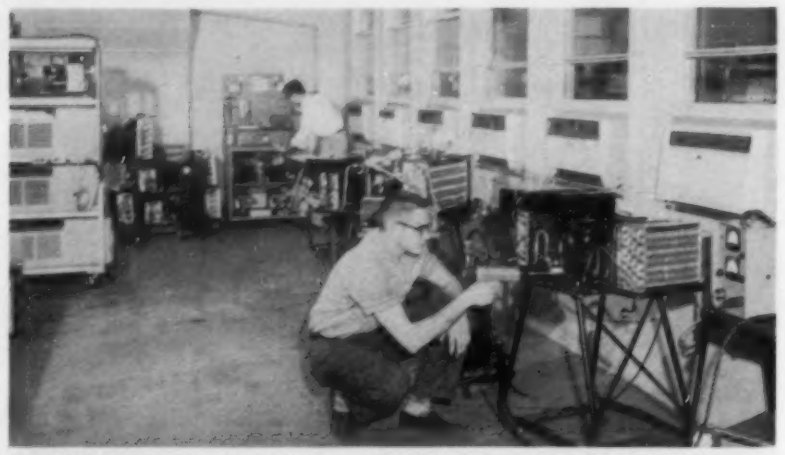
Cell Accommodates Freight Car

"Entire passenger and freight cars can be accommodated in another cell where railway refrigeration equipment is tested under all weather conditions."

Gibson explained that Frigidaire air conditioning engineers are also supported by activity carried on by other Frigidaire groups such as the chemical and metallurgical engineers, the electrical engineering staff, the compressor and control design groups, and the research and product planning section.

"In addition," Gibson emphasized, "Frigidaire has the resources of the General Motors Corp., including the vast facilities of the new GM Technical Center, to support its air conditioning research and engineering program." He said that this includes the GM research, process development, styling, and engineering staffs.

H. E. Van Scoyk, assistant chief engineer, is in charge of commercial and air conditioning engineering departments and R. E. Gould, assistant chief engineer is head of Frigidaire engineering research.



WINDOW-TYPE room air conditioners are picked at random from the production lines and tested here in the life-test room of the new Frigidaire air conditioning engineering laboratory. Units are put through operating tests equivalent to a lifetime of use. These many checks and tests are carried out constantly throughout the year.

In this test room an engineer is obtaining room air conditioner performance with controlled indoor and outdoor temperatures by means of psychrometric colorimeter. Many different kinds of tests can be carried out in this room and other similar rooms.

SECTION of new air conditioning-engineering model shop. Sheet metal layout area is in the middle foreground, with sheet metal fabricating and welding equipment at left. The machine tool area is in the background.

"For quick delivery of electric motors, I always call **DELCO PRODUCTS.** They have the most complete line for our business, too!"

Delco Products makes more models and types of electric motors for the air-conditioning industry than any other manufacturer. For quick service call your nearby Delco Electric Motor distributor.

GM GENERAL MOTORS DELCO

DELCO *Electric* MOTORS

DELCO PRODUCTS, DIVISION OF GENERAL MOTORS, DAYTON, OHIO

Proved best by Performance!

PRESSTITE
Insulation Adhesives

- quick, permanent adhesion
- long-lasting high bond
- excellent resistance to temperature extremes
- brush, spray or flow

See your wholesaler or WRITE

PRESSTITE ENGINEERING CO.
3774 CHOUTEAU AVE. • ST. LOUIS 10, MO.

ACE, the quality line for air conditioning and refrigeration

MODEL 77
Diaphragm Descaling Acid Pump

Descaling compounds can't affect this pump! All parts in contact with compounds are completely acid-resistant. Can be supplied as portable unit with pump and motor mounted on sturdy base and with convenient carrying handles.

Plus a complete line of centrifugal pumps

. . . sized to fit your needs. ¼ H.P. thru 7½ H.P. Easy to install and compactly built. Advanced features include exclusive baked-on lifetime finish to enhance appearance and resist corrosion, John Crane mechanical seal, and all-bronze one-piece impellers. Continuous duty motor.

Manufacturers representatives and distributors' inquiries invited.

ACE PUMP CORPORATION
140 HERNANDO ST. • MEMPHIS, TENN.

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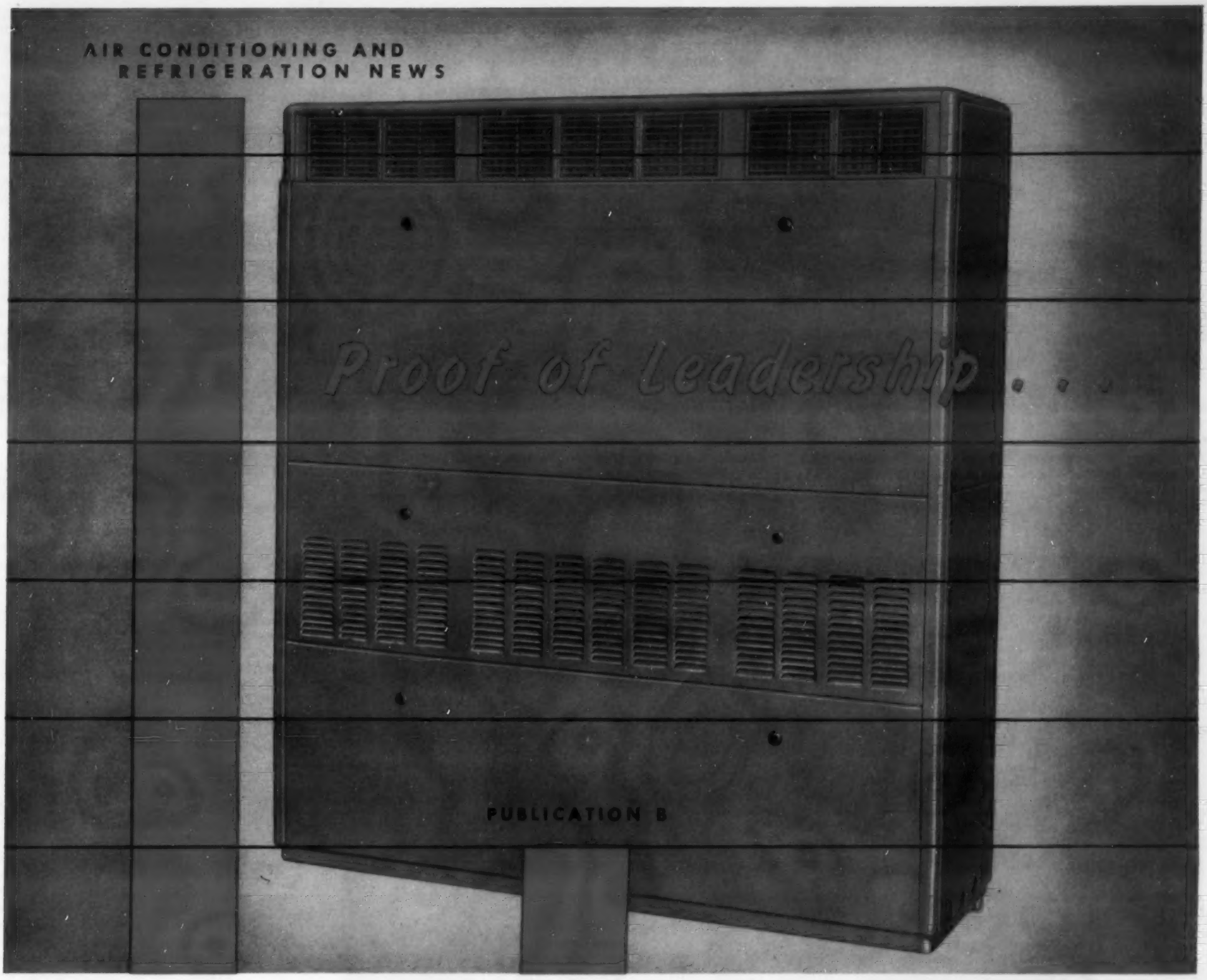

The NEWS carries nearly 7 times more air conditioning advertising than the next publication . . .

Packaged units are sold first through the News

For over 30 years AIR CONDITIONING & REFRIGERATION NEWS has had the position of leadership and the title "newspaper of the industry." Today, this reputation is the most constant fact in our continually-growing, fast changing, dynamic industry.

AIR CONDITIONING & REFRIGERATION NEWS has the highest paid circulation by far and annually carries more than twice as much total advertising as any other publication in the field.

In the vital market for commercial packaged air conditioning alone, AIR CONDITIONING & REFRIGERATION NEWS has unequalled editorial influence among contractor-dealers. What's more, AIR CONDITIONING & REFRIGERATION NEWS carries *seven times as much* commercial packaged air conditioning lineage as any other medium in the industry!

A recent readership check of air conditioning contractors in the Detroit area showed that 62% were paid NEWS subscribers and, more importantly, this 62% made 89% of all installations.

Any way you look at it, AIR CONDITIONING & REFRIGERATION NEWS is indeed *the* newspaper of the industry.

For increased sales tomorrow, increase your advertising space today, in the NEWS. Do the first job where the first job is being done!

Contact one of our advertising representatives for your copy of "Commercial Packaged Air Conditioners at Work."

AIR CONDITIONING & REFRIGERATION **NEWS**

The Newspaper of the Industry

THE NEWSPAPER THAT CARRIES MORE ADVERTISING BY FAR THAN ANY OTHER PUBLICATION IN THE FIELD.

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DETROIT, 450 West Fort St., WOodward 2-0924, J. B. Sullivan.

ABP ABC AUDITED PAID CIRCULATION

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Refrigeration Problems
And Their Solution

By Paul Reed

For Service and Installation Engineers

Questions and Answers

QUESTION:

COLD LOCATION TROUBLE IN SOUTHERN ARIZONA?

The following letter has been received from a reader in southern Arizona:

"Can you tell me why an ice maker will not operate properly without an electric heater sitting in front of the condenser, in a room where the temperature does not go below 50° F.?"

ANSWER:

If this letter had been received from almost anywhere in the United States than southern Arizona, the trouble would have been quickly diagnosed as another case of "cold condenser location," which is a very common complaint, even in the southern states.

One doesn't usually think of the possibility of "cold location" trouble in southern Arizona, but the atlas shows that your town is at an elevation of about 3,600 ft., so you probably have some very chilly nights during the winter months. Curious as it sounds to us in these colder climates, you can very well have a case of "cold location" trouble. Although the room temperature is always above 50°, you might find that the ice maker does not start, even though the bin is low in ice cubes.

Moreover, although a wall thermometer might read 50°, the condenser location might be 10 or 15° below that, especially if the ice maker is near a window, door, or even a cold outside wall. So don't rule out "cold location" as an important factor in your trouble.

CHECK PARTIAL STOPPAGE IN LIQUID LINE

However, your letter says that the ice maker does not "operate properly," which seems to indicate that the ice maker runs, but does not make ice cubes as rapidly as it should unless heat is applied to the air-cooled condenser.

The electric heater warms the condenser and raises the condensing temperature and the head pressure; so it seems that when the room is cool, the head pressure is not high enough, and that when the head pressure is raised, operation is satisfactory.

From this, it seems that there may be some sort of restriction between the condenser and the expansion valve, so that it takes a high head pressure to force enough liquid through the liquid line to fully feed the evaporator.

The most probable cause of restriction in the liquid line is a dirty strainer or drier. It is suggested that you check these; also look for a kinked liquid line. Don't overlook the strainer in the expansion valve.

Install a liquid indicator just ahead of the expansion valve. Bubbles will indicate a restriction or a lack of refrigerant. Also check the temperature of the suction line leaving the evaporator. If it is warm, it is an indication that the evaporator is not being fully fed with refrigerant.

* * *

QUESTION:

DIFFICULTY IN ADJUSTING A PRESSURE CONTROL

"I recently put a new Ranco pressure control on a belt-driven unit on a commercial wall box. I set the cut-in (range) to start the machine when the box temperature gets up to 40°. When I set the differential for cut-out, the machine ran too long, so I raised the cut-out *only slightly*. The unit ran only a minute, then short cycled.

"When I reset the differential very slightly for a lower cut-out, the machine ran almost continuously and pulled the box temperature too low."

ANSWER:

Of course, the pressure control could be defective, but this is unlikely, since it is a new one and of a good make.

It sounds more likely that you have it set at its minimum differential, and you are trying to adjust it to an even lower differential.

Try raising the cut-in setting somewhat, to allow the box to get up to say 40° before the control cuts the machine in. Then reset the cut-out as necessary to get the right box temperature. You may find that you are going to have to maintain a wider differential in box temperature than you anticipated.

Let the machine run a couple of cycles, even with the temperature in the box a little too low, until you finally find the right cut-in and cut-out settings.

You did not mention whether the evaporator is the gravity type or a blower coil. If it is the latter, how are you controlling the fan? Your best bet is to run the fan continuously.

Also, it sounds suspiciously as if the capacity of the machine and the evaporator are out of balance—either that the machine is much too large, or the evaporator is much too small.

If either is the case, you will probably find it necessary to operate on a wide differential of the pressure control, which will in turn result in a wider differential in box temperature between cut-in and cut-out than you had anticipated, or that would be desirable and obtainable if the machine and evaporator were in balance.

It could also be that the evaporator is not being fully fed. If it is not fully active, it will behave about the same as an undersize evaporator, and will require a wide differential in pressure control setting.

Check the outlet temperature of the evaporator and compare it with the temperature of the evaporator about midway of the coil. The outlet temperature should be 10 to 12° above the temperature of the middle part of the coil.

(Concluded on next page)

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For more information about products advertised on this page use Information Center, page 23.

Questions and Answers -

(Concluded from preceding page)

Also feel the suction line about 6 or 8 in. from the evaporator. After the machine has been running at least 2 or 3 minutes, there should be frost on the suction line 6 or 8 in. from the evaporator, and you shouldn't be able to rub this frost off with your fingers.

If you find that the evaporator is not fully active, check the setting of the thermostatic expansion valve, and open it somewhat (reduce the superheat setting).

CHARGE SHOULD BE CHECKED FIRST

But check the charge first. The system being low on refrigerant could cause the evaporator to be not completely active.

Perhaps there is a partial stoppage in the liquid line—a clogged strainer or drier or a kinked liquid line, etc.

You can check by installing a liquid indicator in the liquid line just ahead of the expansion valve. It should show no bubbles.

Your compound gauge should show a difference in pressure between start and stop, of about 16 p.s.i., and certainly not less than 14 p.s.i.

As a guess, the cut-in should be about 34 and the cut-out about 18, but perhaps as low as 12 p.s.i.g.

Such a low cut-out setting is an indication of not enough evaporator, lack of charge, or the evaporator not fully fed with refrigerant.

Household Refrigerator Trends

Modular Built-In Kitchens Possible By Changing Components In the Home

SAN ANTONIO—"The household refrigerator industry is again giving consideration to changing components in the home, chiefly due to the freedom it gives designers," indicates R. S. Geran, service manager, Kelvinator Div., American Motors Corp.

Changing components in the field actually isn't new, for the household refrigerator industry began with field-assembled systems, Geran reminded servicemen attending the RSES educational forum held here recently.

Along with his discussion, Geran presented a sound-slide film used by Kelvinator in training of servicemen for the component change program.

Group Witnessed Change Of Compressor, Evaporator

In addition, the group witnessed the actual changing of the compressor and evaporator on a Kelvinator refrigerator as performed by John McMillan and Joseph Reynard, field service supervisors.

"Component change," Geran explained, "will make possible the modular, built-in kitchen of tomorrow. Design, however, has always been a compromise, and so there are advantages and disadvantages with both system and component replacement design.

Tracing Kelvinator's experience with component change, Geran pointed out that "our first freezer introduced in 1945 was designed for replacement of the compressor.

"Replacement compressors for the freezer had a charge of refrigerant and oil—a slight overcharge of refrigerant, in fact. There was also a small amount of anhydrous methanol in the charge. This has proved very successful, so we are continuing it in our household refrigerator component change program.

"We started the latter in 1955 with the three top models in the line. For 1956 we have broadened the program to include the five top models. The competitive situation," Geran declared, "will determine whether component change will be applied to the low end models of the line. It looks like that is the trend, however."

Reviewing Kelvinator's experience with the component program, Geran revealed that "our 'repeats' on service have been negligible, and these have been due to failure of the components themselves, not the procedure.

About 98% of Replacements Are Compressors

"About 98% of the replacements have been compressors and only 2% low sides," he said. "This is in contrast to system replacement where 20 to 22% of the replacements are due to low sides.

"Does the customer feel her refrigerator is being torn apart in replacing components? We think this is no problem," Geran declared, "because often in a system replacement the refrigerator has to be pretty well taken apart anyway.

"To avoid any such problem, some dealers take the refrigerator to the shop to make the component or system change."

Commenting on the fact that Kelvinator's training program for component replacement does not include the use of a vacuum pump, Geran explained, "where a serviceman has a vacuum pump and is familiar with its use, we approve pulling a vacuum and breaking the vacuum with 'Freon' vapor."

On the question of critical charge of household systems, Geran pointed out the refrigerator on which the component replacement procedure had been demonstrated has a normal refrigerant charge of 8 oz.

"We have to lose 2 oz., or have an overcharge of 2 oz., before any trouble will develop, so the charge is not so critical as one might suppose," he declared.

ACTUAL demonstration of Kelvinator's component replacement program was made by Joseph Reynard and John McMillan at San Antonio RSES education forum as R. S. Geran, service manager, described procedure.

Keuch Joins Bush as Application Engineer

WEST HARTFORD, Conn.—Deane R. Keuch has joined Bush Mfg. Co. as an application engineer.

D. R. Keuch

A graduate of Purdue university with a mechanical engineering degree, he was formerly a sales engineer with Pratt & Whitney division of United Aircraft.

He is a member of the American Society of Mechanical Engineers.

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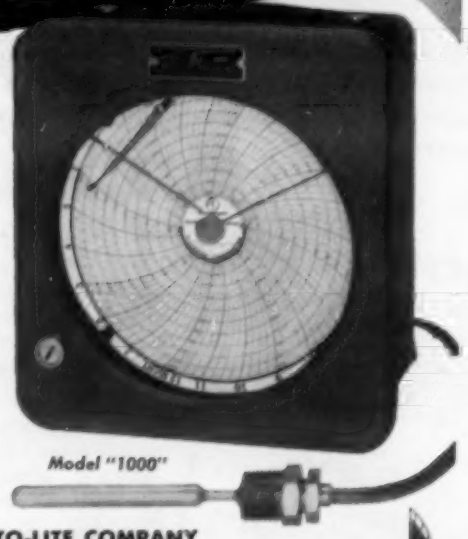

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Servicing Automobile Air Conditioners

BY C. DALE MERICLE

This is the first instalment describing the air conditioning system installed in Chrysler cars.

Makes previously discussed have included A.R.A., Frigikar, Automotive Air Conditioning, Pivot, Novi, Oldsmobile, Buick, Pontiac, Chevrolet, Ford, Nash, Mark IV, Mobil-Aire, and Lincoln and Mercury.

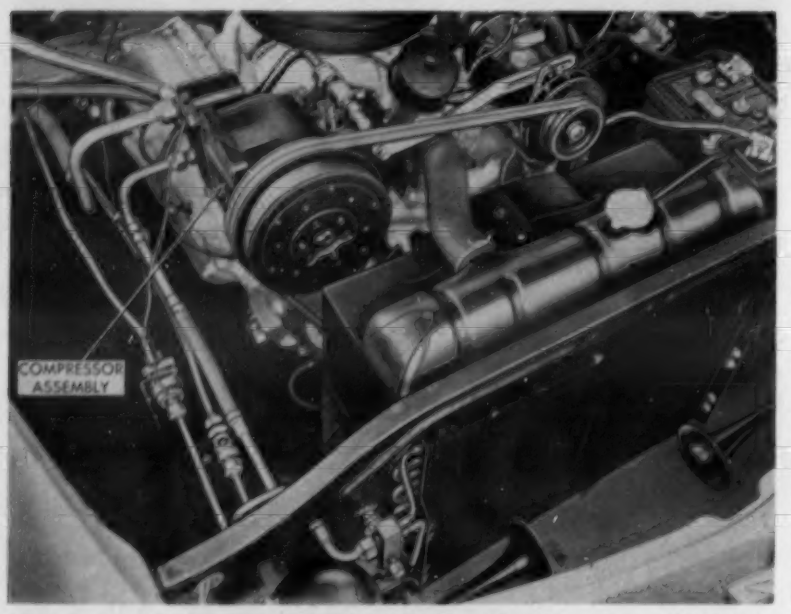

FIG. 2—Tecumseh compressor is installed in horizontal position. Some 1956 Chrysler systems employ a Copeland compressor.

CHRYSLER (1)

Chrysler Div.
Chrysler Corp.
Detroit 31, Mich.

DESCRIPTION

Conventional arrangement of major components is employed by Chrysler Div. for the air conditioning system it offers as an optional accessory for factory or field installation.

Compressor is mounted on the car engine and belt-driven from the crankshaft through a magnetic clutch. Condenser is located in front of the radiator. Evaporator-blower assembly is installed in the trunk of the car. (See Fig. 1).

Conditioned air is delivered to the passenger compartment through outlets in the package tray behind the rear seat. Provision is also made for outside air.

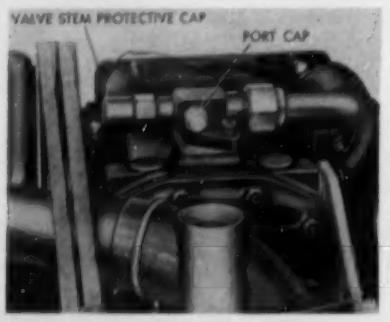

FIG. 3—Suction service valve is mounted on compressor inlet.

Controls are located on the instrument panel to the left of the steering column on 1955 models; to the right on 1956 models.

"Freon-12" is the refrigerant in 1955 and 1956 models. The charge is 4 lbs. Earlier Chrysler air conditioning systems used "Freon-22."

(Essentially, the same air conditioning system employed by Chrysler Div. is also found on DeSoto and Dodge cars, so the description and service hints given here will apply to all three cars. A slightly different system is used by Plymouth. It will be discussed separately.)

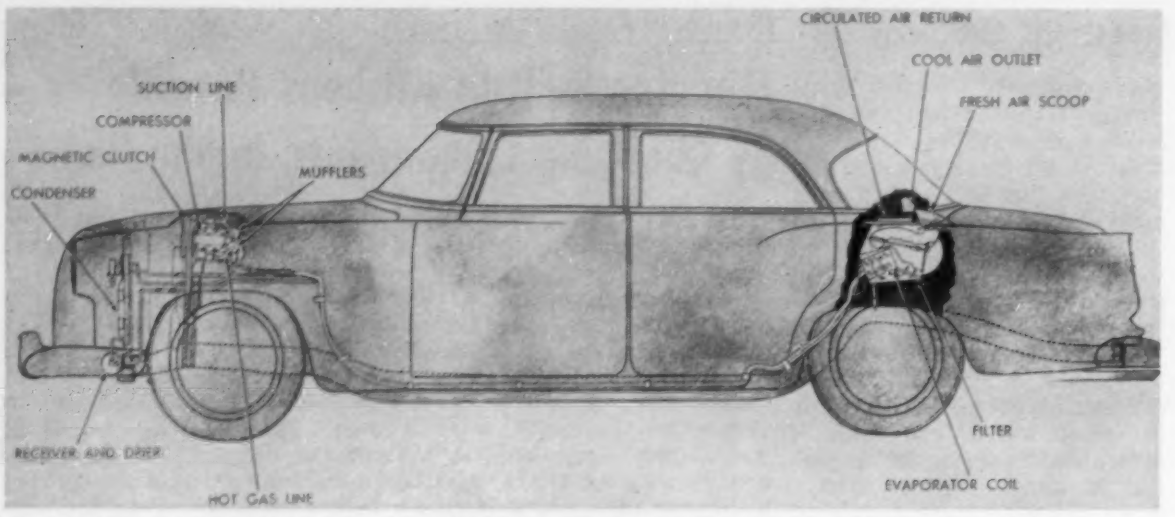

FIG. 1—Air conditioning system employed by Chrysler is also found on DeSoto and Dodge. It can be installed at the factory or by authorized dealers.

Compressor

A Tecumseh two-cylinder, reciprocating type automotive compressor is employed on all 1955 and most 1956 Chrysler systems.

It is mounted above the right cylinder block and is belt-driven off the crankshaft through an Eaton magnetic clutch. The Tecumseh compressor is installed in a horizontal position. (See Fig. 2).

Suction service valve, Fig. 3, is attached to the inlet side of the compressor (or top side with the compressor mounted horizontally as here). Discharge service valve is in the hot gas discharge line at the inlet side of the condenser in front of the car radiator. (See Fig. 4).

Discharge and suction line mufflers are attached to the compressor on models before February, 1956. Mufflers are incorporated in the compressor on later models.

Some 1956 Chrysler air conditioning systems use a Copeland four-cylinder reciprocating type automotive compressor. A Warner magnetic clutch is employed with the Copeland compressor.

Suction service valve is located at the back of the Copeland compressor opposite the clutch end. Discharge service valve, however, remains at the condenser. Rest of the system is likewise unchanged.

FIG. 4—Discharge service valve of Chrysler system is located at inlet of condenser.

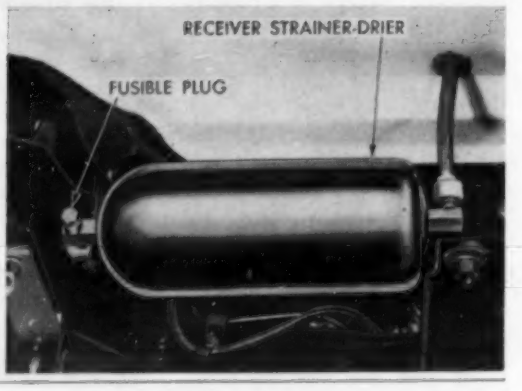

FIG. 5—Combination receiver-strainer-dryer is located in front of, and below, condenser.

Condenser

Condenser is located in front of the car radiator. Inlet to condenser is at top right, outlet at lower right.

A by-pass line is also tied into the discharge service valve. The by-pass line runs back to the evaporator assembly in the trunk of the car. Its function and control will be discussed later in this series.

Receiver

A combination receiver-drier-strainer is located just in front of and below the condenser. (See Fig. 5).

Receiver outlet is fitted with a fusible plug which melts when temperatures exceed a range of 210° to 214° F.

A sight glass is provided in the liquid line between the receiver and the evaporator. The sight glass is located in the engine compartment on the right fender apron.

(To Be Continued)

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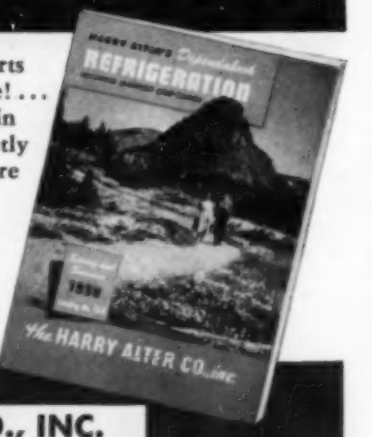

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For more information about products advertised on this page use Information Center, page 23.

Larry D. Spence (r.) of Typhoon Air Conditioning Co., Div. of Hupp Corp., receives the Distinguished Salesman's Award of the Sales Executives Club of New York from former Postmaster General James A. Farley during banquet in the Waldorf-Astoria, March 2, as S.E.C. President Will A. Foster looks on. He received the "Victor" trophy after being nominated for the honor by his company as their outstanding salesman of the year. Top salesmen from 54 of the nation's leading corporations were also honored at the banquet, which climaxed a week-long tribute to America's salesmen.

Typhoon Names Spence 'Distinguished Salesman'

BROOKLYN — Mark E. Mooney, vice president of Typhoon Air Conditioning Co., announces that Larry Spence, district manager for the midwest area, is the winner of Typhoon's 1955 Distinguished Salesman Award.

The presentation was made at the annual Award Banquet held at the Waldorf-Astoria hotel, New York.

This annual contest is sponsored by the Sales Executives Club of New York and the Nation Sales Executives, Inc. It is for the purpose of honoring top salesmen who have performed outstandingly during the year.

Spence first came to Typhoon in 1951. Starting out in a selling capacity, his first big deal was a large government order which he helped to expedite. Shortly thereafter he was sent into the field and was later made a district manager.

At the presentation dinner, Spence, together with winning salesmen of 53 other firms from coast to coast, received his "Victor" statuette and a certificate proclaiming the award. The trophy is of bronze and is of an idealized figure of a salesman, standing with his briefcase at his feet.

These "Oscars" of the selling profession are in recognition of the service rendered to the American economy by such top salesmen, and represent a tribute to them from the more than 26,000 National Sales Executives members.

York Appointment-

(Concluded from Page 1, Col. 3)

ment of a sales manager for each of York's main product lines, it was pointed out.

Landmesser is a veteran of 18 years with York. His career goes back to the early development days of the appliance field.

In his new position, Landmesser will be responsible for sales, through the company's Commercial Div. district offices and distributors, to dealers, builders, and fleet accounts throughout America. This involves eight district offices and over 200 distributors, with dealer representation running into 3,000 plus.

Bulk Milk Coolers--

(Concluded from Page 1, Col. 4)

use. Approximately 2,500 producers in the Chicago milkshed use bulk tank storage, and this figure represents about 16% of the total shippers."

Dunsdon pointed out that dairy processors in some areas are offering a premium to farmers converting to bulk tank coolers to help producers pay the additional costs of new equipment.

But, he said, "from 25 to 40% of the total volume of milk coming into a plant must come from bulk tank shipments in order for the plant to make a savings on handling of milk."

As larger dairy plants change to bulk milk collection, the number of producers shipping in cans will become more scattered and it will cost more to handle milk cans, he noted, adding:

"At present, there are markets in most vicinities for both can and bulk milk shippers. I can't say this will always be true."

Steel Price Rise Seen; Copper Drops Slightly

NEW YORK CITY—A steelman's statement last week that a price increase of $12 to $15 a ton was necessary to "bring the industry's investment into line" brought protests from steel users in the consumer goods field, who declared that the present consumer goods prices they have to ask are making merchandising problems rough enough as it is.

However, while a boost in the amount of the $15 figure requested by Avery C. Adams, Pittsburgh Steel president is possibly not in the cards, an increase is considered likely in the near future, at least no later than the conclusion of wage negotiations scheduled to start next month.

In the meantime, copper prices continued to decline, although very gradually. Custom copper the middle of last week was at 48½ cents a pound, some 7 cents under the 55½-cent high reached only a few weeks ago, according to reports.

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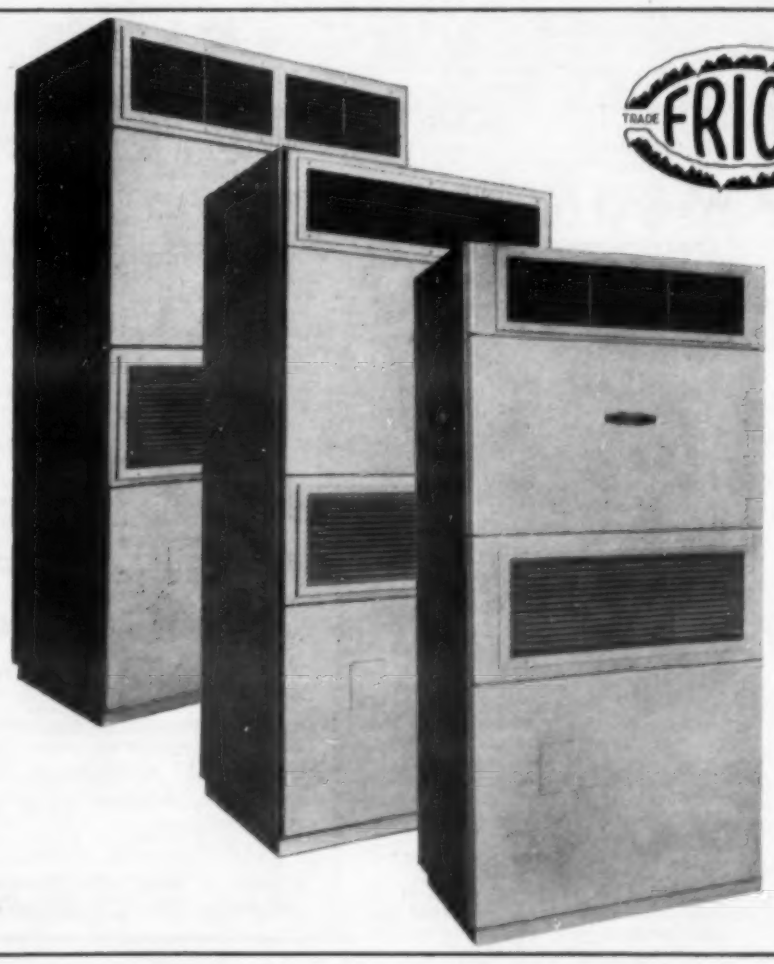

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Corps of Engineers, U. S. Army, New Orleans District, Foot of Prytania St., New Orleans, La.
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San Francisco District Corps of Engineers, 180 New Montgomery St., San Francisco, Calif.
FAN VENTILATING propeller electric exhaust, approx. 42 diameter capacity not less than 30,000 cubic feet per minute with explosion proof motor not less than 7½ hp. 3 phase 220 volt 60 cycle AC motor speed approx. 1725 r.p.m. fan shall be manufactured by Binks Mfg. Co. Model No. 30-517 6 blades and/or model No. 30-520, 80 blades or equal. Motor to conform Fed. Specs CC-M-641—40 ea.—IFB ENG-04-203-56-588B—Bid Opening 23 April 56.

Corps of Engineers, U. S. Army, Seattle District, 4735 East Marginal Way, Seattle 4, Wash.
MODERNIZATION OF HEATING & VENTILATING SYSTEM Bldg. Nr 20, 4735 East Marginal Way, Seattle, Wash. Work involves furnishing and installing units including motors, fans, dampers, coils, ducts, controls, steam piping, electrical work, roof-ventilators, and insulation—Job—IFB ENG-45-108-56-100B—Bid Opening 3 May 56.

Frankford Arsenal, Philadelphia 37, Pa.
BLOWER, compound Vane Axial Electric Motor—250 ea.—IFB 56-SP-595(B)—Bid Opening 14, May 56.

NAVY

District Public Works Office, Fifth Naval District, U. S. Naval Base, Norfolk, Va.
AIR CONDITIONING BUILDING N26 at Naval Base, Norfolk, Va. Deposit of $25 required for plans and specs—Job—IFB NBY 3504—Bid Opening 24 April 56.
INSTALLATION OF HEATING EQUIPMENT at Marine Corps Air Station, Cherry Point, N. C.—Deposit of $25 required for plans and specs—Job—LFB NBY 661—Bid Opening 24 April 56.

AIR FORCE

Procurement Division, Mobile Air Materiel Area, Brookley Air Force Base, Ala.
VENTILATE HEAT TREATING ROOM, Building 16, Brookley Air Force Base, Ala.—Job—IFB 01-601-56-387-B—Bid Opening 3 May 56.

Base Procurement Office, Eglin Air Force Base, Fla.
INSTALLATION OF AIR CONDITIONING SYSTEMS in Buildings Nos. 66, 85, and 389 at Eglin Air Force Base, Fla.—Job—IFB 08-603-56-550B—Bid Opening 11 May 56.

GENERAL SERVICES ADMINISTRATION

General Services Administration, Region 5, 575 U. S. Courthouse, 219 South Clark St., Chicago, Ill.
AIR CONDITIONING at the U. S. Post Office, South Chicago, Ill.—Job—IFB C&R 23—Bid Opening 4-24-56.

General Services Administration, Region 2, Business Service Center, 250 Hudson St., New York 13, N. Y.
REPAIRS TO REFRIGERATION COMPRESSORS, ETC., for U. S. Court House, Philadelphia, Pa.—Job—IFB-2PC-6-1456 (ADVT)—Bid Opening 4-26-56.

General Services Administration, Region 4, Business Service Center, 50 Seventh St., N.E., Atlanta, Ga.
AIR CONDITIONING FOR COURT ROOM AND JUDGE'S SUITE, etc.; Charleston, S. C., Post Office and Court House—Job—IFB CR4-1119A—Bid Opening 4-27-56.

General Services Administration, Business Service Center, Region 3, 7th & D Sts., S.W., Washington 25, D. C.
AIR CONDITIONING EQUIPMENT, Steiner Building, Huntington, W. Va.—Job—IFB-GS-R3-B-4607—Bid Opening 5-1-'56.

CONTRACTS AWARDED THROUGH APRIL 16, 1956

Purchasing & Contracting Office, Fitzsimons Army Hospital, Denver 8, Colo.
Installation of Water Conservation Devices for Cooling, Heating and Industrial Processes, Contract No. DA-05-015 MD-557 (IFB MD-05-015-56-21)—Lump Sum $34,987—Trautman & Shreve, Inc., 4406 Race St., Denver, Colo.

General Services Administration, Region 4, Business Service Center, 50 Seventh St., N.E., Atlanta 23, Ga.
New Air Conditioning U. S. Post Office and Court House, Montgomery, Ala.—(IFB CR4-1118A-GS-04-B-3678)—Job—$13,293—Jones Coal Co., 220 Vine St., N.W., Decatur, Ala.

General Services Administration, Region 5, 575 N. S. Courthouse, 219 S. Clark St., Chicago, Ill.
AIR CONDITIONING of OASI Agency Office for the U. S. Post Office and Courthouse, Louisville, Ky.—Job—IFB C&R 315—Bid Opening 4-17-'56.
AIR CONDITIONING, ETC., for Animal Laboratories for the 1010 Broadway Building, Cincinnati, Ohio—Job—IFB C&R 514—Bid Opening 4-24-56.

Public Works Office, Commandant 14th Naval District, Navy No. 128 c/o F.P.O. San Francisco, Calif.
Reinsulate Freeze Rooms, Building No. 135, U. S. Marine Corps Air Station, Kaneohe Bay, Oahu, T. H. (IFB NOy 90207)—Job—$37,000—Associated Masons, Ltd., 666 Ala Moana, Honolulu, Hawaii.

General Services Administration, Region 4, Business Service Center, 50 Seventh St., N. E., Atlanta 23, Ga.
Air Conditioning Court Room, U. S. Court House, Columbia, S. C.—(IFB CR4-1246-GS-04-B-3658)—Job—$10,800—J. L. Wynn & Co., Inc., 751 Lowndes Hill Rd., Greenville, S. C.

Corps of Engineers, U. S. Army, Office of the District Engineer, Detroit District, 600 East Jefferson Ave., Detroit 26, Mich.
Furnish and install heating facilities, including all related work necessary and appurtenant thereto, in the vicinity of Sault Ste. Marie, Mich. (IFB ENG-20-064-56-69)—Job—$15,587—Lloyd Guenther Heating & Air Conditioning, Inc., 110 Elm St., Cheboygan, Mich.
Modification of Cold Storage Warehouse for Air National Guard Facilities, including all related work necessary and appurtenant thereto, at Alpena County Airport, Alpena, Mich. (IFB ENG-20-064-56-71)—Job—$8,222—Arthur Boot Co., 1444 Lake Dr. S.E., Grand Rapids, Mich.

United States Air Force, Headquarters, 3800 Air Base Wing, Maxwell Air Force Base, Ala.
Modifying and Air Conditioning Building 403, Gunter Air Force Base, Alabama. (Firm Fixed Price Contract) IFB 01-600-56-97—$42,420—Wyatt Construction Co., P. O. Box 7098, Montgomery, Ala.

District Public Works Office, Potomac River Naval Command, U. S. Gun Factory, Washington, D. C.
Air Conditioning and Electrical Improvements, Marine Corps Schools, Quantico, Va. (IFB NOy-91965)—Job—$89,400—Anderson & Estabrook, Inc., 1021 N. Fillmore St., Arlington 1, Va.

Headquarters, Goodfellow Air Force Base, Texas.
Air Conditioning of O. B. Ward, Bldg. Nr. 63, Project No. GF-27-56, one job (IFB 41-614-56-16)—Job—$12,582—J. W. Nesom, Contractor, 208 S. Van Buren, San Angelo, Texas.

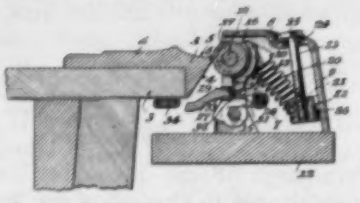
Headquarters, U. S. Marine Corps, Commandant of The Marine Corps, Washington 25, D. C.
Warehouse, Refrigeration, prefabricated, sectional, walk-in portable, w/o refrigerated storage equipment, in accordance with Mil. Spec. MIL-W-10932D dtd. 3 Aug. 1954 and Amend No. 1 NOm-68670 (IFB 157-56)—58 ea.—$124,418—The Cal-Tex Co., P. O. Box 266, Tyler, Texas.

General Services Administration, Region 8, Business Service Center, Denver Federal Center, Denver, Colo.
Alterations to ventilating system at the U. S. Post Office and Court House, Denver, Colorado (IFB C and R 356)—Job—$11,246—York Plumbing & Heating Co., 2701 West 8th Ave., Denver 4, Colo.

PATENTS

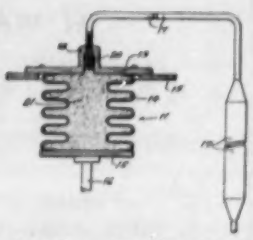
Week of November 1 (Concluded)

2,722,446. REFRIGERATOR DOOR FASTENER. Winfield C. Evans, Mount Airy, Md., assignor to Jamison Cold Storage Door Co., Hagerstown, Md., a corporation of Maryland. Application Oct. 27, 1953, Serial No. 388,636. 2 Claims. (Cl. 292—336.)



1. A refrigerator door fastener comprising a latch lever pivotally mounted on the door frame, a roller carried by said latch lever, springs for moving the latch lever outwardly toward the door, a keeper rigidly mounted on the door and having an outer tapered face merging into a rounded contact member adapted to be engaged by said roller, means for holding the latch lever in retracted position and the roller out of the path of the keeper while the door is in full open position, means operated by the door as it approaches closed position for releasing said holding means, thereby permitting the springs to move the roller outwardly into engagement with the outer tapered face of the keeper for forcing the door to tightly closed position, the pivotal support for said latch lever being disposed so that on the initial opening movement of the door the keeper will force the latch to a retracted position and release said holding means for engagement with the latch for holding the same retracted.

2,722,451. THERMOSTATIC CONTROL SYSTEM. Keith B. Wilson, Burbank, Calif., assignor to General Controls Co., Glendale, Calif., a corporation of California. Application Nov. 17,1952, Serial No. 320,877. 4 Claims. (Cl. 297—8.)



1. In a thermostatic control system of the type which comprises means defining a work chamber having a wall movable in response to variation of pressure in the chamber; a thermal bulb, adapted to be subjected to the controlling temperature, in communication with said work chamber and forming therewith a closed system; and a solid fill of nonmetallic thermally expansive liquid in said closed system: the improvement consisting in that said work chamber contains, in addition to said liquid, a substantial amount of solid matter having a low coefficient of thermal expansion and in the form of particles of such fineness and character that they remain substantially suspended in the liquid; and filter means are provided for preventing access of the particles to the interior of said thermal bulb.

Week of November 8

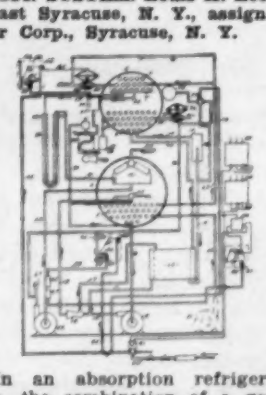
2,722,732. METHOD OF MAKING A HEAT EXCHANGER. Ray A. Sandberg, Waukegan, Ill., assignor to Houdaille-Hershey Corp., Detroit, Mich., a corporation of Michigan. Application April 19, 1949, Serial No. 88,342. 1 Claim. (Cl. 29—157.3.)

The method of forming a heat exchanger which includes the steps of forming a groove in a sheet metal backing plate having a semi-cylindrical bottom wall and straight upstanding side walls, positioning a continuous circular cross-section tube of external diameter substantially equal to the internal diameter of said semi-cylindrical wall in said plate groove, placing the backing plate on a die structure having a groove for receiving the backing plate groove, said die groove being slightly wider than the overall width of the plate groove and slightly shallower than the overall projection of the plate groove from the plate, and applying a reshaping force through the mouth of said groove against said tube to press the side walls of the tube against the side walls of said plate groove, and continuing to exert a reshaping pressure against said tube to force the side walls of the tube to press the side walls of the plate groove outwardly from straight upstanding relation while leaving a re-entrant configuration with the side walls of the plate groove overlying the top part of the tube and locking the tube in the plate groove.

2,722,723. METHOD OF MAKING HEAT EXCHANGER TUBE. James R. Meyer and Frederick A. Loebel, Milwaukee, Wis., assignors to Cleaver-Brooks Co.

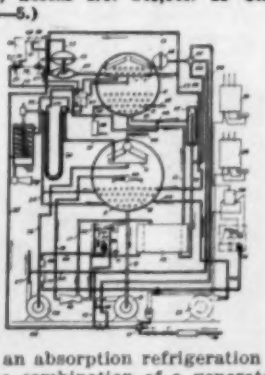
The method of making a heat exchanger tube comprising, placing three round cross section tubes of the same diameter within a single larger tube so that the axes of all the tubes are parallel and each tube is in contact with all the others, then reducing the diameter of the larger tube to force all the tubes into heat conductive contact through intimately contacting wall surfaces and then stopping the reduction of the larger tube after the contacting portions of the tubes have flattened to provide said contacting walls and before materially changing the size of the passages through the tubes.

2,722,805. CONTROL ARRANGEMENT FOR ABSORPTION REFRIGERATION SYSTEM. Louis H. Leonard, Jr., East Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y.



1. In an absorption refrigeration system, the combination of a generator, a condenser, an evaporator and an absorber placed in a closed circuit, the circuit containing a saline solution as an absorbent and water as a refrigerant, means for maintaining substantially constant flow of solution through the system, and means for varying the concentration of solution leaving the generator without interference with solution flow by varying the effectiveness of the condenser in response to a decrease in the load imposed upon the system, the concentration varying means being actuated in response to variation in temperature of water leaving the evaporator.

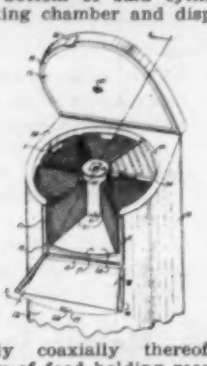
2,722,806. CONTROL ARRANGEMENT FOR ABSORPTION REFRIGERATION SYSTEM. Louis H. Leonard, Jr., East Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y., a corporation of Delaware. Application Aug. 7, 1951, Serial No. 240,646. 13 Claims. (Cl. 62—5.)



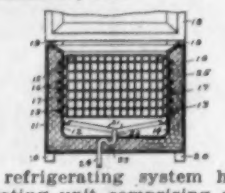
1. In an absorption refrigeration system, the combination of a generator, a condenser, an evaporator, and an absorber placed in a closed circuit, the circuit containing a saline solution as an absorbent and water as a refrigerant, means for maintaining substantially constant flow of solution through the system, and means for regulating the concentration of solution leaving the generator in response to the difference in temperature between temperature of solution leaving the generator and saturation temperature corresponding to condenser pressure without interference with solution flow.

2,722,807. COMPARTMENTED FREEZER OR REFRIGERATOR. Helen A. Downing, Minneapolis, Minn.

1. In compartmented freezer or refrigerating apparatus, an upstanding insulated housing defining a generally cylindrical refrigerating chamber, a cooling element within said chamber, said housing having a doorway extending through a relatively small portion of the periphery thereof, a door in said doorway, a turntable mechanism mounted substantially axially of said chamber and furnishing a supporting medium for a plurality of individual food holders, a central, substantially cylindrical food freezing receptacle removably mounted at the bottom of said cylindrical refrigerating chamber and disposed substantially coaxially thereof and a plurality of food holding receptacles of segmental shape and having a maximum width less than the width of said doorway, said segmental shaped receptacles being supportable upon said turntable mechanism in a nested relation to occupy the greater part of said chamber between said housing and said central, cylindrical receptacle and being independently and selectively removable through said doorway by appropriately swinging said turntable mechanism for alignment of a desired segmental receptacle with said doorway.

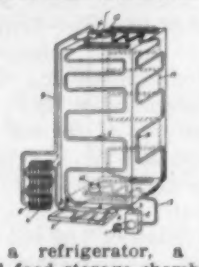


2,722,808. AUTOMATIC REFRIGERATOR DEFROSTER. Harry W. Goodhart, Baltimore, Md.



1. A refrigerating system having a refrigerating unit comprising an inner and outer wall, refrigerating tubes positioned inbetween said walls, means for circulating a refrigerating medium through said refrigerating tubes, a heat insulating filling in the space between said walls, a foraminated screen suspended outwardly from said inner wall, and electrical heat conducting units suspended between said inner walls and foraminated screen to defrost the unit at predetermined intervals.

2,722,809. REFRIGERATOR. Willard L. Morrison, Lake Forest, Ill.



1. In a refrigerator, a vertically elongated food storage chamber having top, bottom and side walls, a vertically disposed opening into said chamber extending substantially from top to bottom thereof, a removable closure for said opening, a compressor, a condenser and an evaporator, conduits joining them, a manifold associated with the top and the bottom walls of the chamber, a single suction connection from the manifold associated with the bottom wall leading to the compressor, a single discharge connection leading from the condenser with the manifold associated with the top of the chamber, the evaporator comprising a plurality of tubes in parallel, extending between the two manifolds.

(Continued on next page)

Application Engineer

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Mechanical Engineering Degree with experience in Application of Heat Transfer Surface.
Age 25 to 30 Years.

The salary is open but will be commensurate with the ability of the individual.

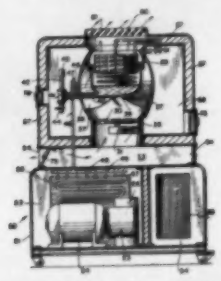
Kindly give complete Resume in your reply.

Lyman B. Betz, Betz Division, Bohn Aluminum & Brass Corp., 445 State Street, Hammond, Indiana.

PATENTS

(Continued from preceding page)

2,722,810. PORTABLE AIR CONDITIONER. Pietro Maniscalo, Sr., Chicago, Ill. Application June 18, 1954, Serial No. 437,777. 4 Claims. (Cl. 62—140.)



1. In a portable air conditioner, the combination of a casing, a pair of vertically spaced horizontal partitions dividing said casing into an upper compartment, a lower compartment and an intermediate room air plenum chamber between said partitions and open at one side, inlet and outlet window ducts leading to and from said lower compartment, a refrigeration cycle apparatus comprising a compressor and condenser in said lower compartment and an evaporator coil in said upper compartment, a vertical room air duct leading from said plenum chamber to an outlet at the top of said upper chamber, said evaporator being located adjacent the upper part of said vertical room air duct and comprising vertically spaced coils, a water pan in said vertical duct below said evaporator, a blower in the lower part of said vertical duct, spiral vanes in said duct between said blower and evaporator and terminating adjacent said evaporator and adapted to impart a whirling motion to the air flowing between the coils of said evaporator, and a second blower located in one of said window ducts for circulating outside air through said condenser.

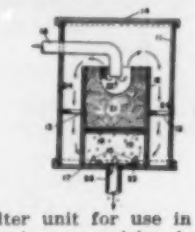
2,722,890. DISC DAMPER FOR DIFFUSERS AND THE LIKE. Peter Argentieri and Harry Daninhirsch, Danbury, Conn., assignors to Connor Engineering Corp., Danbury, Corp., a corporation of New York. Application Jan. 14, 1953, Serial No. 331,268. 7 Claims. (Cl. 98—40.)

5. A diffuser housing having an outlet, a diffuser plate thereover, a damper plate located between the diffuser plate and the outlet and movable to cover or uncover the outlet, an operating spindle movable through the diffuser plate, the damper plate having a central opening through which the spindle is axially movable, spring means for normally urging the spindle toward the outlet, and coupling means by which the spindle may be coupled to or uncoupled from the damper plate to thereby permit said spindle to be either moved in company with, or independent of, the damper plate as said spindle is moved toward or away from the outlet.

2,722,881. DAMPER CONTROL. Noel H. Sutterfield, Columbus, Ohio, and Arpad Ilo, Milwaukee, Wis., assignors, by mesne assignments, to General Controls Co., a corporation of California. Application Feb. 23, 1950, Serial No. 145,619. 4 Claims. (Cl. 98—41.)

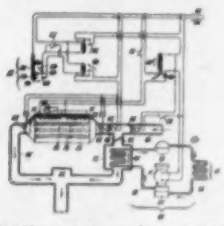
2. A damper assembly for controlling fluid flow into an enclosure comprising a frame; a damper vane pivotally mounted within said frame; an actuator casing mounted within said frame and containing an actuator for moving said vane; said actuator comprising, an expansible bag provided with fluid connections and mounted within the base of said casing, a plate overlying said bag and movable in response to pressure variations therein, said plate having a first pivotal connecting link pivotally mounted on said casing and a second pivotal connecting link connected to said vane, a spring blade overlying said bag having one end secured to said casing and its free end bearing against said plate, and adjustable means for varying the tension exerted by said spring blade.

2,723,035. OIL FILTER. Edward B. Anderson, Baltimore, Md. Application Sept. 15, 1954, Serial No. 456,223. 4 Claims. (Cl. 210—131.)



1. A filter unit for use in a refrigerating system comprising in combination, an elongated shell adapted for vertical placement having its upper end removably closed in and its lower end provided with an outlet, an inlet being located in the wall of said shell and including means for holding it spaced from the inside walls of said shell to provide a space from the top to the bottom for the flow of the refrigerant in a gaseous state as it passes from the inlet to the outlet, filter material in said cell positioned to bring its upper portion below the inlet so the coil in the system can drop and percolate through said material on its way to said outlet and then to continue through said system, a screen for supporting the material in the cell without interfering with the filtered oil passing therethrough, said filtering material including a depression adjacent said inlet for facilitating the dropping of the oil therein and guiding the gaseous refrigerant flowing through the shell without passing through said filtering material, lugs for maintaining the position of the cell in the said shell, an elbow on the inlet to direct the oil and refrigerant in predetermined directions independent of each other to said outlet.

2,723,063. HEAT PUMP APPARATUS. Constantine W. Bary, Whitemarsh, Pa. Application Feb. 5, 1952, Serial No. 270,045. 8 Claims. (Cl. 237—2.)

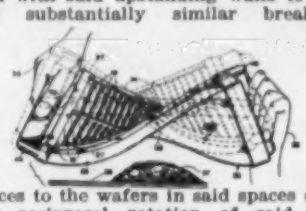


1. Heating apparatus comprising a source of heat, a heat pump having heat absorbing means arranged to absorb heat from said source and having heat releasing means for transferring heat to the medium to be heated, means forming a passage for conducting said medium adjacent said heat releasing means to absorb heat therefrom, electric means for operating said heat pump, a heat storage container, heat storage material contained in said container, heat storage electric means associated with said container and arranged to supply heat to said heat storage material, means forming another passage for conducting the medium to be heated adjacent said heat storage material to absorb heat therefrom, and electric interlock means connected to both said electric means, said interlock being constructed and arranged to prevent any flow of electric current to the heat storage electric means whenever the heat pump is operated.

REISSUES

24,085. TRAY MEANS FOR THE PRODUCTION OF FRANGIBLE, CHIPPABLE, AND FLAKABLE ARTIFICIAL ICICLE ELEMENTS. Joseph G. Nigro, Ocean Side, N. Y., assignor to Gits Molding Corp., Chicago, Ill., a corporation of Illinois. Original No. 2,674,862, dated April 13, 1954, Serial No. 272,871, Feb. 21, 1952. Application for reissue Feb. 2, 1955, Serial No. 485,632. 12 Claims. (Cl. 62—108.5.)

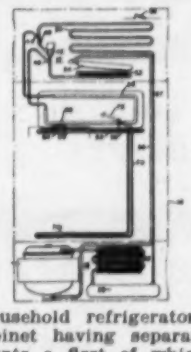
12. A tray that can receive liquid and that can hold and confine that liquid while that liquid is congealed to ice and that can thereafter respond to twisting to convert said ice into ice chips or flakes while said ice is in situ and that comprises a liquid retaining compartment with a continuous bottom and with upstanding end walls and side walls, said liquid retaining compartment having an axis that extends longitudinally of said liquid retaining compartment between said end walls, a plurality of plates that are integral with said bottom of said liquid retaining compartment and that extend upwardly from said bottom of said liquid retaining compartment, said plates being long and narrow and extending transversely of said axis, said plates being closely adjacent each other in confronting relation to define a multiplicity of narrow liquid congealing spaces of wafer-like narrowness, said spaces being of a thickness substantially smaller than either the length or breadth thereof whereby each of said spaces receives one of a multiplicity of small quantities of liquid which can be congealed to form a readily frangible congealed wafer, said tray being made of flexible material whereby said end walls of said liquid retaining compartment can be reciprocally rotated about said axis of said liquid retaining compartment to recurrently distort said liquid retaining compartment and the said plates therein to subject the congealed liquid therein to torsional stresses and strains, said plates reinforcing and stiffening said bottom of said liquid retaining compartment to minimize local upward bowing of said bottom of said liquid retaining compartment, said liquid congealing spaces defined by said plates assuring the formation of a multiplicity of readily frangible wafers of sufficient thinness that the said distortion of said liquid retaining compartment and the said plates therein during reciprocal rotation of said end walls of said liquid retaining compartment breaks said congealed wafers into chips and flakes of relatively small and irregular configuration that are readily miscible with liquids, said plates coacting with said bottom and with said upstanding walls to apply substantially similar breaking



forces to the wafers in said spaces during reciprocal rotation of said end walls whereby uniform breaking of said wafers into chips and flakes is assured, said upstanding walls spacing said bottom a predetermined distance below the upper edges of said upstanding walls, said plates stiffening and reinforcing said bottom to substantially maintain said predetermined spacing between said bottom and said upper edges of said upstanding walls during distortion of said liquid retaining compartment, each of said plates providing a stiffening and reinforcing action for said bottom, said plates being so closely adjacent each other that the stiffening and reinforcing action which said plates provide for said bottom minimizes losses in the transmission of torsional forces through said bottom to said plates and thereby increases the breaking forces which said plates transmit to said wafers.

Week of November 15

2,723,533. REFRIGERATING APPARATUS. Leonard J. Mann, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application July 11, 1952, Serial No. 298,339. 5 Claims. (Cl. 62—4.)



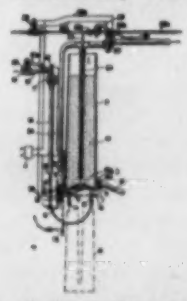
1. A household refrigerator including a cabinet having separated food compartments a first of which is for storing foods in a frozen state and a second of which is for storing foods in an unfrozen state, refrigerating means for cooling said compartments, said refrigerating means comprising a first evaporator section arranged in thermal exchange relationship will walls of said first compartment, a second evaporator section arranged in thermal exchange relationship with the air of said second compartment, and a third evaporator section arranged in thermal exchange relationship with one wall of said first compartment, refrigerant liquefying means, refrigerant flow connections for supplying liquid refrigerant from said refrigerant liquefying means to said evaporator sections in unrestricted series flow relationship, and means for by-passing said second evaporator section.

2,723,536. APPARATUS FOR FORMING ICE CUBES. Hugh B. Mason, San Gabriel, Calif., assignor of one-third to Sabra E. Mason, San Gabriel, Calif. Application March 18, 1953, Serial No. 343,035. 6 Claims. (Cl. 62—107.)

1. An apparatus for forming ice blocks comprising a series of freezing units each including a rectangular supporting frame, a plate attached to and closing the back of the frame, a freezing block disposed in said frame and spaced away from the frame and the back plate, insulating material filling said space, said freezing block having a series of connected tubular channels through which a refrigerant is circulated, each tubular channel having front, rear and side walls, the front wall having spaced openings therein, a series of individual molds each having integral sides and bottom walls with the front end open, said molds being disposed in said channels and with the open end of the molds projecting through the openings in the front wall and welded to said front wall, and a sheet of impervious insulating material secured to the front side of said ice forming block, said sheet being disposed within said frame and closing the front side thereof, said sheet having openings conforming to the open ends of the molds whereby the liquid to be frozen may be sprayed into the open ends of said molds.

2,723,534. METHODS AND MACHINES TO PRODUCE ICE, AND ICEBLOCKS OBTAINED THEREBY. Eugen Wilbushewich, Haifa, Israel. Application Sept. 29, 1952, Serial No. 312,058. Claims priority, application Switzerland Aug. 21, 1952. 12 Claims. (Cl. 62—7.)

1. An ice-making machine including at least one upright ice mould with removable bottom adapted to be held against the mould by an intervening ice film; at least one tubular freezing member extending from above into the mould substantially over the en-



tire height of the latter; a freezing jacket surround at least a part of the mould and connected to the tubular freezing member; and means for passing in succession through the tubular freezing member and freezing jacket a refrigerating medium adapted to produce an ice block in the mould, and in alteration therewith a warm medium adapted to detach the ice block from the mould.

(To Be Continued)

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POSITIONS WANTED

MANUFACTURERS' REPRESENTATIVE, 20 years' experience calling exclusively on restaurant and bar fixture dealers in Ohio, Michigan, Indiana, Kentucky, and W. Virginia wants Reach-in display refrigerator line. SAM F. SIEGEL, 1591 Addison Road, Cleveland 3, Ohio.

THIRTEEN YEARS' experience in refrigeration, air conditioning, and heating; sales engineer & installation supervisor. Desire field work with recognized manufacturer; sales or service engineering. Prefer North-Eastern section. Will relocate and will travel. Complete details by personal interview. BOX A5519, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

EXCEPTIONAL OPPORTUNITY for top salesman presently employed by commercial refrigeration distributor to advance to factory level job with world's leading manufacturer. Must have outstanding sales record, free to travel, ability to work independently, supervise and build distributor organizations. Excellent salary plus bonus and travel expense. Send complete resume to Jack C. Pritchett, National Sales Manager, FRIEDRICH REFRIGERATORS INC., P.O. Box 1540, San Antonio, Texas.

MAN THOROUGHLY experienced in sales of packaged air conditioning equipment to head commercial department of well established heating and air conditioning company. Contact Mr. S. G. Braun, THE NATIONAL HEATING COMPANY, 1999 Central Avenue, Cincinnati 14, Ohio.

REFRIGERATION SERVICE engineer. Food and beverage equipment distributor and contractor in tenth year needs experienced serviceman for installing and servicing Tyler and Brunner complete food stores; school kitchens; and restaurants. Steady year-round work. Salary and split of service profits. Write PETERSON FIXTURE COMPANY, 4507 - 23rd Avenue, Moline, Illinois.

MANUFACTURERS' REPRESENTATIVE with commercial refrigeration experience, now covering Michigan, Indiana, Midwestern or Southwestern states, to sell fast-growing line of commercial equipment. Write PAUL R. STEWART, 1712 John Street, Cincinnati 14, Ohio.

MANUFACTURER'S REPRESENTATIVES with commercial refrigeration experience wanted. We have several desirable territories open. Complete line refrigerated display and storage fixtures, including latest design self-service models for supermarkets; also bakery refrigerators and complete line institutional and restaurant refrigerators. Contact dealers, distributors and food chains. Give complete details as to experience and industry references in first letter. Replies held in confidence. BOX A5500, Air Conditioning & Refrigeration News.

SALES ENGINEERS are required by major manufacturer of air conditioning refrigeration and air handling equipment for expanded sales operation in Midwest. Travel involved. Salary, expenses, and bonus. Write giving full personal details, education, experience, and salary in first letter. Replies confidential. BOX A5513, Air Conditioning & Refrigeration News.

ENGINEERS, COLLEGE graduates with experience for development, design and production engineering work on heat pump air conditioning systems and components. Unusual opportunity in growth business with substantial company located in northern New Jersey metropolitan area. Salary commensurate with experience. BOX A5518, Air Conditioning & Refrigeration News.

REFRIGERATION ENGINEER with considerable experience in layout—not sales—wanted for either part time or full time. No age limit for competent man. BOX A5521, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

NEW IMPROVED Kesco automatic condensate water disposal pumps, for air conditioners, ice-cube bins and drinking fountains, featuring a 9 in. high 3 gallon welded heavy steel hot dipped galvanized tank, with 2 gallon emergency reservoir; ¾ pipe inlet 1½ inches from floor. 4 inches water in tank starts pump. At your local wholesaler.
MT. VERNON, Eastern Supply, 521 East Third Street
NEW YORK, Abco Refrigeration, 1615 Second Avenue
WHITE PLAINS, County Seat, 111 Central Avenue
NEWARK, N. J., Tesco Distributors, 78 Boston Street
Distributors write to KESCO PRODUCTS CORP., Springfield Gardens 13, N. Y. for sample pump and literature.

AIR CONDITIONING value: 3 h.p. hermetic compressor F-12 230V. 1/phase HD200. 3 h.p. air cond. evaporator 23⅛" L x 16" H x 3⅛" W. 3 h.p. air cond. condenser 24" L x 24" H x 4¼" W. Also included 3 ton F-12 T. X. Valve & dual pressure safety cutout switch. Complete matched component kit as described $179.50. Freight prepaid anywhere in the continental U. S. A. WALTER W. STARR, 2833 Lincoln Ave., Chicago 13, Illinois.

ALL BRAND-NEW double-duty, self-contained Super-Cold meat cases in the original crates. 10'—$595.00. 8'—$545.00. Also 10' Super-Cold #102-B, double-duty, self-contained, white porcelain, self-service vegetable, dairy and delicatessen cases—$585.00. ¾ h.p. 50 cycle, air cooled, 115 volts, prominent brand condensing unit—$95.00. Limited stock priced for quick turnover. Write or wire WRIGHT REFRIGERATION, INC., 4025 Pacific Hwy., San Diego 1, Calif.

FOR SALE designs, patents and production equipment for finned coils air conditioner and refrigeration evaporators and condensers and liquid chillers. Write BOX A5517, Air Conditioning & Refrigeration News.

GALVANIZED STEEL framework for 3, 5, 8, and 10 ton towers. Supply of component parts including evaporating surface. Blower type forced draft. Will Sacrifice. BOX A5520, Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

FOR SALE—Illness forcing established Commercial Refrigeration & Air Conditioning Sales & Service that has exclusive national franchises. Fast growing city. Potential sales unlimited—$30,000 inventory—Expansion necessary—May consider partner—Ideal midwest climate. BOX A5516, Air Conditioning & Refrigeration News.

ARI Meeting--

(Concluded from Page 1, Col. 5)

tute will be held Tuesday morning, with reports by the retiring officers, and installation of new officers. Two talks will be presented "The Economic Outlook As It Affects the Air Conditioning Industry" by Dr. Jules Backman of New York university; and "Automation In Marketing" by Eugene B. Mapel, vice president, Barrington Associates.

Sectional meetings will be held Tuesday afternoon and Wednesday morning. Following is the detailed program:

SUNDAY, MAY 6

10 a.m.—Board of Directors.

2 p.m.—Registration.

MONDAY, MAY 7

8:30 a.m.—Registration.

9:30 a.m. — Flow Control Valves Section; Heat Transfer Section; Refrigerants, Lubricating Oils, and Chemical Section; Room Air Conditioner Section; Small Compressor Section; Tubular Products Section.

10 a.m.—Ladies Golf Tourney.

12:30 p.m.—Men's Golf Tournament.

7 p.m.—Cocktails.

7:30 p.m.—Banquet. Presentation of Golf Prizes. "Much To Do About Something," James E. Gheen.

TUESDAY, MAY 8

8 a.m.—Refrigerant Driers Committee.

8:30 a.m.—Registration.

ANNUAL MEETING
Theater

9:30 a.m.—President's Annual Report.

9:45 a.m.—Report of Managing Director.

10 a.m.—Report of Treasurer.

10:15 a.m.—Presentation of Plaque to Retiring President.

10:20 a.m.—Installation of New President.

10:30 a.m.—Report on Budget for 1956-1957.

10:45 a.m.—"The Economic Outlook as It Affects the Air Conditioning Industry," Dr. Jules Backman, New York U.

11:30 a.m.—"Automation In Marketing," Eugene B. Mapel, Vice President, Barrington Associates.

2 p.m.—Air Conditioning and Refrigeration Systems Section; Temperature Controls Section; Valves, Driers, Fittings, and Accessories Section; Year-Round Residential Air Conditioning Section.

6:30 p.m.—Cocktail Party.

WEDNESDAY, MAY 9

9 a.m.—Government Relations Committee.

9:30 a.m.—Self-Contained Air Conditioner Section; Self-Contained Ice-Maker Section; Solenoid Valves Sub-Committee.

Archie S. Feinberg Dies of Heart Attack

DALLAS — Archie S. Feinberg, founder of United States Air Conditioning Corp. and a pioneer in theater air conditioning, died here of a heart attack recently. He was 64 years old.

Feinberg became active in the cooling and air conditioning field when the industry was still in its infancy. He was instrumental in the organization of Arctic Nu-Aire Corp. in Boone, Iowa in the founding of U. S. Blower and Heater Co. in Minneapolis, and formation of successor UsAirco.

Home Building--

(Concluded from Page 1, Col. 2)

The U. S. Department of Labor said builders began work on 96,000 home units in March, as compared with 78,000 in February, and 113,800 units begun in March of last year.

The Federal Housing Administration reported that applications for mortgage insurance on new homes totaled 24,900 in March, compared with 18,500 in February, and 35,600 in March, 1955. However, an FHA official said the rate of mortgage insurance applications in March "was more than expected, though we are operating at a lower level than last year."

The Dodge reports on home building contracts awarded during March in the 37 states east of the Rockies showed a total of $1.1 billion, highest recorded for any month, and 12% above a year ago. But the number of housing units planned was lower than March, 1955, indicating that larger and more expensive dwellings accounted for the increased dollar volume so far this year.

House Bill Would Require Notice to Govt. on Mergers

WASHINGTON, D. C.—The House of Representatives has passed a bill to require large companies planning mergers or acquisitions of other firms, to provide advance notice of such merger plans to the Federal Government.

The bill provides a 90-day "waiting period" after announcement of the merger plan. If, during this period, the Federal Government decided the proposed merger probably violated the antitrust laws, it would then have to get a court injunction to prevent the merger from taking place, it was stated.

Cleveland SMI Meeting May 6-9 To Feature Food Store Equipment

CHICAGO—The Super Market Institute will hold its 19th annual convention in the Cleveland Public Auditorium from May 6 to 9.

An exposition of food store equipment, including commercial refrigeration and air conditioning equipment, will be a feature of the convention. No list of exhibitors has yet been released.

The exhibit area will open at 1 a.m. on Sunday and close at 6 p.m. It will be open from 2 to 6 p.m. on Monday and Tuesday and from 2 to 5 p.m. on Wednesday.

Business sessions of the convention will be held in the mornings, leaving the afternoons free for supermarket operators to visit the exhibits.

Production Rise--

(Concluded from Page 1, Col. 5)

14.2 million last year.

Their appliance by appliance forecast:

Refrigerators—Hold even at 4 million units.

Freezers—Hold even at 1.1 million units.

Dryers—Up to 1.6 million units from 1.4 million last year.

Washers—Up to 4.4 million units from 4.2 million, with automatics rapidly replacing wringer type washers.

Ranges—Up to 3.7 million from 3.5 million last year.

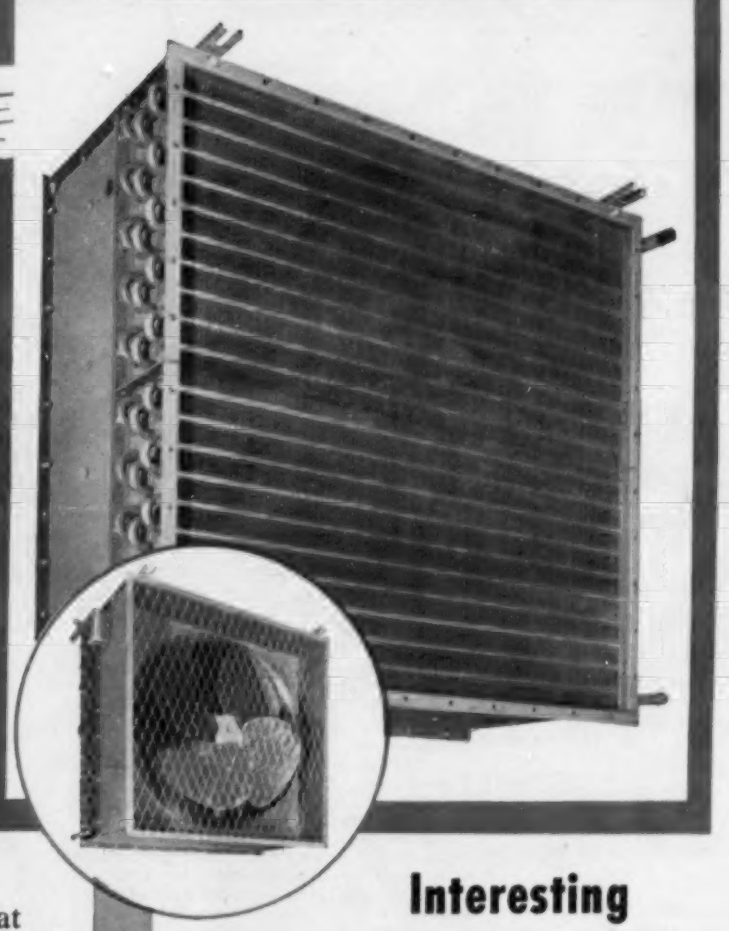
The Institute said that a survey made by some of its members among 6,000 appliance dealers showed an 8 to 5 preference for porcelain enamel as an exterior finish for clothes dryers, a 2 to 1 preference in freezer interiors, and a 2½ to 1 preference on washers.

GIVE WATER WORRIES

"THE AIR"

THE LARKIN ZEPHYRCON air cooled condenser

HANDLES UP TO 40 TONS AS EASY AS A BREEZE



Here's an engineering achievement that solves several of your problems in one neat package:

1) *The Larkin Zephyrcon ends water problems from the start.* Uses only air and electricity. Eliminates worry over high water rates or water restrictions.
2) *The Larkin Zephyrcon pulls the air over the condensing coils.* This distributes the air better, holds air-stream noise to a minimum, makes removal of lint and leaves simple.
3) *The Larkin Zephyrcon operates quietly and efficiently.* It is engineered with sufficient condensing capacity to solve your problem. Low speed motors and deep pitch fans assure quiet operation.

Add to these advantages the reliability of any product bearing the name Larkin, and you have a combination hard to surpass. For full details, see your wholesaler, or write direct to us.

Interesting Facts and Features:

- 2, 3, 5, 8 and 10 ton units engineered for parallel use.
- Famous Larkin cross-fin coil—aluminum fins, copper tubes.
- Finished with corrosion-resistant epon-base, chlorinated-rubber enamel.
- Permanently lubricated motors operate quietly on resilient adjustable base. Motors are provided with overload protection.
- Motor wired to weather-proof external conduit box.
- Fan guard is standard equipment.
- Zephyrcon is weatherproofed for indoor or outdoor operation.
- Slotted hanger bars for ceiling or floor installation.
- Pre-punched holes for easy connection to duct-work.

WATCHDOG OF THE NATION'S FOOD AND COMFORT — LARKIN

LARKIN COILS INC.

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